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ABSTRACT

The Bulletin of Higher Education, published by the University Grants Commission, New Delhi, India, is presented. Contents pertain to the following: the Journal of Higher Education; the Seventh Conference of Vice-Chancellors, 1975; the College Science Improvement Program; selection of additional colleges under the College Humanities and Social Sciences Improvement Program; pattern of assistance to colleges for the development of postgraduate studies during the fifth plan period; general program of development of undergraduate educational facilities during the fifth plan period; assistance for development programs to teacher training colleges, law colleges, colleges of physical education, and similar institutes during the fifth plan period; essential terms and conditions for receiving assistance from the UGC; UNESCO International Coupons Scheme; advanced research and short-term projects in humanities and social sciences sanctioned during fifth plan period; major research projects in science sanctioned during fifth plan period; Science Research Council; research projects in engineering and technology sanctioned during fifth plan period; recent modifications in the scheme of preparation of university level books by Indian authors; leave on academic grounds to junior and senior research fellows during tenure of UGC fellowship; book bank scheme; and supply of essential commodities to student's hostels in university or degree colleges. (SW)

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BULLETIN OF HIGHER EDUCATION

Vol. 2 Nos. 1 & 2 November 1976

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EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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UNIVERSITY GRANTS COMMISSION
NEW DELHI

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New Delhi

November 1976

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FOREWORD

This is the First issue of the Second Volume of the *Bulletin of Higher Education*. The *Bulletin* carries official information regarding the policies and schemes of the Commission. Even though it was originally announced that the *Bulletin* appears thrice a year, we regret that due to some unavoidable circumstances the issue Nos. 2 & 3 of the First Volume, due after the April 1975 issue, could not be published.

The current issue of the *Bulletin* contains information on many important schemes and outlines of the Fifth Plan Development Programme for the Universities and Colleges. Also published here are lists of Advanced Research Projects in Humanities and Social Sciences, Major Research Projects in Science and titles of Writing of University Level Books sanctioned by the Commission so far during the Fifth Plan.

I hope that the university and college community as well as the wider community will find the *Bulletin* useful.

New Delhi
November, 1976

SATISH CHANDRA
Chairman
University Grants Commission

BULLETIN OF HIGHER EDUCATION

Vol. 2 Nos. 1 & 2 November 1976

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Shri R.K. Chhabra — *Secretary*

• As in November, 1976.

** Replaced by Shri G. Ramachandran w.e.f. 10-11-1976

1. RELEASE OF THE JOURNAL OF HIGHER EDUCATION BY THE PRIME MINISTER

The first issue of the *Journal of Higher Education* published by the University Grants Commission has been released by the Prime Minister, Shrimati Indira Gandhi on the 21st August, 1975 in New Delhi. The function was attended by a select gathering of academicians, intellectuals and administrators from the educational institutions and other organisations in New Delhi.

Welcoming the Prime Minister, Professor Satish Chandra*, Vice-Chairman, University Grants Commission explained that the *Journal of Higher Education* will be issued three times a year, along with a *Bulletin*. The Editorial Board consists of distinguished academics who will ensure that the *Journal* will have the necessary autonomy. It is hoped that apart from disseminating information regarding various programmes of the Commission, the *Journal* will help in the development of right values in the academic community. Professor Satish Chandra further added that the teaching community will use all its energies for fulfilling the Prime Minister's programme of national development. The UGC will strive to ensure that the educational system becomes a fit instrument for training scientists, researchers and teachers of the highest calibre, as well as for imbibing the students with a sense of discipline and national purpose.

Smt. Gandhi said that higher education in India should be able to equip our youth to face the challenges of a rapidly changing world. While imbibing a modern and rational outlook, they should remain Indian to the core. Warning against the danger of unconsciously adopting westernised attitudes, Smt. Gandhi said there is much we should learn from the West but we should also be aware of the human weaknesses and prejudices of those nations. Smt. Gandhi said that it was very wrong to look everything from western angle. Look at India with Indian eyes, added the Prime Minister. The Prime Minister said students wanted university education as the vocational training may not help them to equip for future. Nevertheless it was necessary to have some type of vocation. The education should be able to adapt itself to the changes in the society. Smt. Gandhi emphasised that education should be such that without knowing one is able to learn all these things.

Smt. Indira Gandhi said many books written by English authors depicted Asians, Arabs and Africans as unreliable and dishonest, while extolling British sense of fair play and justice. We can see how this be belied in the depiction of the recent developments in India in the British Press and Radio.

*Presently Chairman, UGC.

Some of the London papers gave extensive coverage of a procession of less than twentyfive persons who marched to India House protesting against the Emergency, but they totally blacked out a well attended meeting addressed by two prominent British personalities Baroness Jennie Lee and a Labour MP, Mr. Julius Silverman, supporting the action of the Indian Government.

2. JOURNAL OF HIGHER EDUCATION

The *Journal of Higher Education* is published by the University Grants Commission to promote scholarly study of, as well as discussion of contemporary problems and policies in higher education.

Views expressed in all contributions are those of the authors. The Commission or the *Journal* are not committed to them.

Contributions in duplicate type script and books for review (2 copies) may be addressed to the Honorary Editor.

The *Journal* is issued thrice a year : Monsoon, Autumn and Spring.

Subscribers to the *Journal* will also receive a copy of the *Bulletin of Higher Education* published by the Commission. The Bulletin carries official information from the University Grants Commission.

Rates of subscription for the *Journal* are as follows : Annual Rs. 20 (India), £3 or $8 (Foreign) : Single copy Rs. 8 (India), £1 or $3 (Foreign). For bonafide individual teachers and students in India, Rs. 10 per annum.

Enquiries regarding subscriptions may be addressed to Publication Officer, University Grants Commission, 35 Ferozeshah Road, New Delhi-110001.

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Higher Education in India by J. N. Kaul — *A.K. Dasgupta*
Towards a Cultural Policy edited by Satish Saberwal — *K.P. Karuna Karan*

Books and Journals Received

Our Contributors

3. SEVENTH CONFERENCE OF VICE-CHANCELLORS, 1975

The Seventh Conference of Vice-Chancellors convened by the Ministry of Education and the University Grants Commission was held in Vigyan Bhawan, New Delhi on 30th September and 1st October, 1975. The conference was attended by the Vice-Chancellors of Universities, Institutions deemed to be universities under the UGC Act and Directors of the Indian Institutes of Technology, All India Institute of Medical Sciences, New Delhi and Postgraduate Institute of Medical Education and Research, Chandigarh. The conference was presided over by the Vice-Chairman, University Grants Commission.

The conference—its deliberations and recommendations adopted by it—have special significance and value in the context of the implementation of the various programmes of higher education to be implemented by the universities with support from the University Grants Commission. It also has particular importance in view of the restructuring of the pattern of education and implementation of the new 10+2+3 pattern.

The conference was inaugurated by the Prime Minister Smt. Indira Gandhi and was addressed by the Minister of Education, Social Welfare and Culture, Professor S. Nurul Hasan.

The conference for purpose of its deliberations divided itself into three groups after the initial session. The group under the chairmanship of Dr. Malcolm S. Adiseshiah, Vice-Chancellor, Madras University dealt with matters related to planning of higher education, including strategy of higher education: restructuring of courses and preparation for introducing 10+2+3 pattern. The group under the chairmanship of Professor S. N. Sen, Vice-Chancellor, Calcutta University considered various quality improvement programmes, including examination reforms, faculty improvement reforms, faculty improvement schemes, college science and humanities improvement programmes, autonomous colleges, support for research and development of centralised facilities on inter-university basis. The third group which met under the chairmanship of Dr. K. L. Shrimali, Vice-Chancellor, Banaras Hindu University considered matters relating to student amenities and youth development programmes.

*Contents of Vol. 1, No. 3 Spring 1976 issue published at the end of this *Bulletin*.

Main Resolutions

The Main Resolutions of the Conference are published below:

1. The Conference expressed its gratitude to the Prime Minister for addressing the Conference. It assured the Prime Minister that effective steps will be taken by the Vice-Chancellors to ensure that the valuable suggestions made by her are implemented.

The Conference emphasised in particular that steps should be taken to foster, maintain and promote good relationships amongst students, teachers and educational administrators. This was important if the energy and idealism of the students were to be channelized into national building programmes.

The Conference was further of the opinion that efforts should be made by the universities to inculcate amongst the students a spirit of cooperation and helping others of combating social evils and of developing a spirit of pride in the country and its achievements.

2. The Conference recommended that the Government of India may place at the disposal of the University Grants Commission sufficient funds to enable the Commission to pay maintenance grants for specified activities to the State Universities as enabled under Section 12(c) of the UGC Act. More funds should be placed at the disposal of the Commission for its plan development programmes also.

3. The Conference recommended that the Government of India may be requested to treat the student residences as an essential component for development of higher education facilities and as such hostels should not be treated as nonfunctional buildings for purposes of the temporary ban imposed by the Government of India on construction of buildings.

4. The Conference while welcoming the steps taken by the UGC for providing assistance to the colleges for setting up book banks recommended that in order that the collection of books in such banks could be augmented from time to time, the UGC may assist the colleges with additional grants during the plan period.

5. The Conference expressed its concern that in several States, the revised scales of pay as recommended by the UGC have not been accepted by the State Governments for implementation. The Conference recommended to the Central Government that the State Governments be persuaded to implement the revised scales of pay in the universities and colleges in all faculties including the faculties of agriculture, engineering and medicine.

6. The Conference welcomed the suggestion of the UGC that for purposes of better coordination amongst the universities within a State, the State Government may set up a Coordination Committee of Vice-Chancellors of Universities and further desired that a representative of the UGC should be associated with the working of such Committees.

7. The Conference felt that, besides the Vice-Chancellors Conference organised by the UGC and the Ministry of Education from time to time, it would be appropriate to organise, as a follow-up measure, separate con-

ferences both on a regional basis as well as to bring together universities of a particular character such as teaching-cum-affiliating, unitary universities and purely affiliating universities.

8. The Conference welcomed the suggestions made with regard to the steps be taken for providing remedial courses etc. for students coming from underprivileged sections of the society and to create for them all opportunities for equal educational attainment. The Conference also felt that the universities be assisted at the same time, to devise suitable programmes for identification and nurturing of gifted students also.

Report on the Proceedings

A Report on the Proceedings of the Conference has been published by the Commission.

The report contains the addresses of the Prime Minister, the Education Minister, the Vice-Chairman of the University Grants Commission, the statements and recommendations adopted by the conference and the reports of the committees alongwith agenda notes considered by them. Copies of this report can be obtained on request from the Publication Division, UGC.

4. COLLEGE SCIENCE IMPROVEMENT PROGRAMME (COSIP)

The College Science Improvement Programme (COSIP) was initiated 1970-71 in order to bring about a qualitative improvement in the teaching of science in predominantly undergraduate colleges and to initiate a process of continuous experimentation and self-renewal. The programme was implemented at two levels namely (1) selected colleges and (2) in selected university departments with a view to initiating a process of improving the teaching of some selected subjects in all the colleges affiliated to that university. The institutions selected under this programme have an opportunity to revise syllabi and examination methods and to introduce better methods of teaching, reduce formal classroom teaching and make science instruction more meaningful and more relevant. The university departments can devise special projects to bring about necessary upgrading and modernisation of courses of study in their special subjects and organise suitable short-term courses in selected areas to enable the teachers to teach effectively the subject included in the revised syllabi. An attempt has also been made to produce necessary text materials, question banks, laboratory guides and to design new experiments and fabricate some items of equipment required for demonstration and laboratory work. A *COSIP Newsletter* published with the support of the Commission, is disseminating information relating to college science improvement programme in the universities and colleges.

During the IV Plan period, the Commission had approved 13 university leadership projects and 112 colleges for implementing the COSIP Programme.

During the Vth Plan, 28 additional colleges and 22 additional departments have been approved under this programme.

Activities under COSIP in selected Colleges

The important activities undertaken by the selected colleges are as under :-

(i) To make a determined effort to introduce new methods of instruction in the class room as well as in the laboratories, reduce formal instruction to the minimum and to release necessary time to enable the student to undertake reference work and study on their own with the necessary guidance given by the teachers.

(ii) To do in a better way science teaching by adopting new teaching technology and to set in motion processes which may ultimately help the university to revise the syllabi and examination methods.

(iii) To ensure student participation in discussions, seminars, project work and wherever possible in teaching as well.

(iv) To provide opportunities for college teachers to obtain additional training through various refresher programmes to be developed by the universities for this purpose.

(v) Improvement of laboratory equipment and providing for necessary demonstration material to revise courses and for adoption of new teaching methods.

(vi) To design and fabricate equipment required for supporting instructional programmes by the development of their workshop facilities.

(vii) To establish inter-departmental and inter-collegiate programme for uplifting science education at the undergraduate level.

(viii) To devise special programmes to enable gifted science students to develop their innate talents and for their development into professional scientists.

(ix) To provide for an average science student instructions and necessary equipment to encourage his powers of reasoning, logic and spirit of enquiry essentially required for science.

Activities under University Leadership Projects

The important activities undertaken by the different universities under University Leadership Projects are as under :—

(a) An assessment of the existing syllabi, methods of instruction, physical facilities available and methods of evaluation in the examination jointly by the staff of the university department and the staff of the college departments concerned.

(b) Preparation of model courses of study alongwith the revised lists of experiments, equipment required for conducting the experiments and the library services required for supporting new academic programmes to be introduced under the scheme.

(c) Development of courses of study and curriculum material including preparation of suitable books, teachers' guide and laboratory manuals.

(d) Development of workshop facilities and to make an effort towards

making a substantial part of the practical work to be workshop based.

(e) Training of college teachers and increasing their effectiveness so that they could take their experience to the actual class room situation to adopt new methods of teaching, demonstration, discussions etc. The universities organise for this purpose academic year institutes, short-term refresher courses and wherever necessary summer institutes as well with a view to provide for institutional coverage and to accept as many teachers as possible from a single department in anyone institute.

(f) Establish viable channels of communication between university department faculty and the college department faculty.

(g) Make available to the college teachers the facilities available in the university department. This includes short term visits as well as accepting a few selected college teachers to spend an academic year at the university departments to enable them to improve their effectiveness as teachers and associate such teachers in the curriculum development programme.

(h) Encourage teachers from the colleges to undertake short-term research programmes with the help of fellowships.

(i) Coordinate with other university leadership projects in the same subjects for development of curriculum material, fabrication and design of equipment required to support new experiments and preparation of other teaching aids which could be used on national level.

Results Expected of COSIP in Selected Colleges/ULP

Consequent upon the implementation of these programmes, following results are expected to be achieved :—

1. There will be less lecturing, fewer contact hours and more opportunities for students to explore and experiment.
2. Greater distinctions will be made between the needs of future scientists and those of degree holders who will be science-users, not professionals.
3. It is anticipated that Botany and Zoology instruction at the B.Sc. level and earlier will merge into general biology courses containing all the elements of life sciences now taught separately.
4. It is expected that the life science will become more quantitative and therefore modern.
5. The UGC would like to encourage the individual character of each college and university. Hence each college under COSIP will have the privilege of achieving the aims of COSIP in its own individual way. However, the UGC reserves to itself the duty of guidance and ultimately of removing from the approved list of those colleges

which cannot or will not effectively institute programmes of fundamental renewal. Only such colleges as make an impact under COSIP can expect to participate in the follow up activities.

6. Apart from these far reaching results, the following general benefits are expected :—

   (i) Better preparation of professional scientists, rather than examination passers.
   (ii) Better general scientific background of that large fraction of degree holders who will not become professional scientists.
   (iii) Greater variety of teaching methods and therefore a more vital Indian science with greater productivity, imagination and application to the needs of the Nation.
   (iv) Within 5 or 10 years of the inception of this programme, it is expected that a large number of colleges will be prepared to assume the full responsibility of autonomous colleges.

7. In the case of University Leadership Projects which have completed the first phase, it is proposed to bring together information on the following points, separately for each subject. This will be published and made available to other Universities.

   (i) Curriculum reforms—revisions introduced in the B.Sc. syllabus.
   (ii) Text-books and other reading materials produced.
   (iii) Basic list of books and journals for B.Sc.—essential and recommended.
   (iv) Basic list of laboratory equipment required for B.Sc.
   (v) List of experiments prescribed (as revised) and new laboratory experiments introduced (with brief explanatory notes)
   (vi) Demonstration experiments developed.
   (vii) Items of equipment designed/fabricated/assembled or developed
   (viii) Models or charts, film strips etc., developed/adapted.
   (ix) Refresher courses, and other teacher improvement activities organised.
   (x) Examination reforms, model questions, question banks, testing and evaluation methods developed.
   (xi) Joint research projects taken up by University–College teachers; College teachers under the COSIP-ULP.
   (xii) Any other information relating to improvement of instruction at B.Sc. level.

Criterion for Selection under COSIP

The minimum norms for the selection of colleges have been laid down by the standing advisory committee. To be eligible for selection, the College should have for two year B.Sc. course a minimum 200 enrolment and for three year B.Sc. course a minimum 300 enrolment and a good staff student ratio say less than 1:15. ULP's are recommended by the advisory

committee keeping in view facilities available final selection depends upon the programme submitted.

UNIVERSITY DEPARTMENTS PARTICIPATING IN ULP

Department	*University*		*Date of Approval*
Physics	1	Andhra	18-3-1971
	2	Bangalore	16-11-1975
	3	Bombay	16-11-1975
	4	Calicut	16-11-1975
	5	Madurai	16-11-1975
	6	Meerut	7-1-1976
	7	Mysore	17-10-1970
	8	Nagpur	26-3-1974
	9	Osmania	16-11-1975
	10	Panjab	26-3-1974
	11	Poona	26-3-1974
	12	Rajasthan	3-3-1971
	13	Ranchi	16-11-1975
Chemistry	14	Andhra	26-3-1974
	15	Bangalore	16-11-1975
	16	Gorakhpur	26-3-1974
	17	Gujarat	16-11-1975
	18	Karnatak	16-11-1975
	19	Madras	8-4-1975
	20	Osmania	26-9-1970
	21	Panjab	26-9-1970
	22	Poona	8-12-1970
	23	Rajasthan	26-3-1974
Mathematics	24	Bangalore	18-3-1971
	25	Bombay	20-1-1975
	26	Gujarat	26-9-1970
	27	Madurai	26-9-1970
	28	Meerut	27-4-1972
	29	Panjab	26-9-1970
Biological Sciences	30	Gujarat	8-4-1975
	31	Madurai	26-9-1970
	32	Madras (Botany)	26-9-1970
	33	Meerut (Botany)	22-7-1974
	34	Gorakhpur	16-11-1975
	35	Marathwada	16-11-1975

COLLEGES PARTICIPATING IN COSIP

S. No.	*Name of the University*	*Name of the College*
1.	Agra	1 Agra College, Agra
		2 D. S. College, Aligarh
		3 D. S. B. Government College, Nainital
		4 Hindu College, Moradabad

COLLEGES PARTICIPATING IN COSIP

S. No.	Name of the University		Name of the College
1.	Agra (*Contd.*)	5	Raja Balwant Singh College, Agra
		6	St. John's College, Agra
2.	Allahabad	7	Chaudhari Mahadeo Prasad Degree College, Allahabad
		8	Ewing Christian College, Allahabad
3.	Andhra	9	P. R. Government College, Kakinada
		10	Andhra Christian College, Guntur
		11	Andhra Loyala College, Vijayawada
		12	D. N. R. College, Bhimavaram
		13	Hindu College, Guntur
		14	Government Arts College, Rajamundry
		15	Maharaja's College, Vizianagaram
		16	Mrs. A. V. N. College, Visakhapatnam
		17	V. S. R. College, Tenali
4.	Bangalore	18	Government College, Bangalore
		19	Maharani's College for Women, Bangalore
		20	Mount Carmel College, Bangalore
		21	National College, Bangalore
		22	St. Joseph's College, Bangalore
		23	Vijaya College, Bangalore
		24	V. H. D. Central Institute of Home Science, Bangalore
		25	S. Nijalingappa College, Bangalore
5.	Berhampur	26	Khalikote College, Berhampur
6.	Bhagalpur	27	T. N. B. College, Bhagalpur
7.	Bihar	28	C. M. College, Dharbhanga
8.	Bombay	29	Jai Hindi College, Bombay
		30	Ramnarain Ruia College, Bombay
		31	Sophia College for Women, Bombay
		32	St. Xavier's College, Bombay
		33	Wilson College, Bombay
		34	Kirti M. Doongursee College, Bombay
9.	Calcutta	35	Bangabasi College, Calcutta
		36	N. B. B. College, Agartala
		37	Serampore College, Serampore, Hooghly
		38	St. Xavier's College, Calcutta
		39	Ramakrishna Mission Residential College, Narendrapur
		40	Belur Ramakrishna Mission Residential College, P.O. Belurmath (Howrah Dist.)
		41	Vidyasagar College, Calcutta
10.	Calicut	42	Guruvayurappan College, Calicut
		43	St. Thomas College, Trichur
		44	Vimla College, Trichur

COLLEGES PARTICIPATING IN COSIP

S. No.	Name of the University	Name of the College
11.	Dibrugarh	45 Sibsagar College, Sibsagar
		46 J. B. College, Jorhat
12.	Gauhati	47 St. Edmund's College, Shillong
		48 Aryavidyapeeth College, Gauhati
13.	Gorakhpur	49 St. Andrew's College, Gorakhpur
		50 Post Graduate College, Ghazipur
14.	Gujarat	51 J. J. College of Science, Nadiad
		52 St. Xavier's College, Ahmedabad
15.	Guru Nanak Dev	53 D. A. V. College, Amritsar
		54 Khalsa College, Amritsar
16.	Himachal Pradesh	55 R. P. C. S. D. B. College, Simla
17.	Indore	56 Holkar Science College, Indore
18.	Jiwaji	57 Government Science College, Gwalior
19.	Kanpur	58 Acharya Narendra Deo Nagar Mahapalika Mahila College, Kanpur
		59 D. A. V. College, Kanpur
		60 Christ Church College, Kanpur
		61 P. P. N. College, Kanpur
		62 Bipin Bihari College, Jhansi
		63 V. S. S. D. College, Kanpur
20.	Karnatak	64 Raja Lakhamagouda Science Institute, Belgaum
		65 S. B. Science College, Gulbarga
		66 Veerasaiva College, Bellary
		67 Government College, Gulbarga
21.	Kashmir	68 Government Degree College, Anantnag
22.	Kerala	69 C. M. S. College, Kottayam
		70 Maharaja's College, Ernakulam
		71 S. N. College, Quilon
		72 Union Christian College, Alwaye
		73 University College, Trivandrum
		74 St. Teresa's College, Ernakulam
		75 St. Thomas College, Palai
23.	Kumaon	76 Government College, Almora
24.	Lucknow	77 Isabella Thouburn College, Lucknow
		78 Shia College, Lucknow
25.	Madras	79 Loyola College, Madras
		80 Madras Christian College, Madras
		81 P. S. G. Arts College, Coimbatore

COLLEGES PARTICIPATING IN COSIP

S. No.	Name of the University		Name of the College
25.	Madras (*Contd.*)	82	Pachaiyappa's College, Madras
		83	Presidency College, Madras
		84	Seethalakshmi Ramaswami College, Tiruchirapalli
		85	St. Joseph's College, Tiruchirapalli
		86	Vivekananda College, Madras
		87	Avinashilingam Home Science College for Women, Coimbatore
		88	Raja Sarfoji Govt. College, Thanjavur
		89	Women's Christian College, Madras
26.	Madurai	90	Alagappa College, Karaikudi
		91	American College, Madurai
		92	Lady Doak College, Madurai
		93	Madurai College, Madurai
		94	V. H. N. S. N. College, Virudhu Nagar
		95	Arulmigu Palaniandaver Arts College, Palni
27.	Magadh	96	A. N. College, Patna
28.	Marathwada	97	Govt. College of Arts & Science, Aurangabad
		98	Nanded Education Society's Science College, Nanded
		99	Yogeswari Mahavidyalaya, Ambajogi
29.	Meerut	100	D. A. V. College, Muzaffarnagar
		101	D. N. College, Meerut
		102	M. S. College, Saharanpur
		103	Meerut College, Meerut
		104	Raghunath Girls College, Meerut
		105	S. D. College, Muzaffarnagar
		106	M. M. H. College, Ghaziabad
		107	Multanimal Modi College, Modinagar
		108	N. R. E. C. College, Khurja
30.	Mysore	109	Mahatma Gandhi College, Udipi
		110	St. Aloysius College, Mangalore
		111	St. Agnes College, Mangalore
31.	Nagpur	112	Hislop College, Nagpur
32.	Osmania	113	N. B. Science College, Hyderabad
		114	New Science College, Hyderabad
33.	Panjab	115	D. A. V. College, Jullundur
		116	Government College, Rohtak
34.	Patna	117	Bihar Patna College, Patna
35.	Poona	118	Ahmednagar College, Ahmednagar
		119	Ferguson College, Poona

COLLEGES PARTICIPATING IN COSIP

S. No.	Name of the University		Name of the College
35.	Poona (*Contd.*)	120	H. T. T. College, Nasik
		121	Nowrosjee Wadia College, Poona
		122	S. P. College, Poona
		123	Pratap College, Amalner
		124	S. S. V. P. Sanstha's Science College, Dhulia
		125	Mooljee Jaitha College, Jalgaon
36.	Rajasthan	126	Government College, Ajmer
		127	Maharaja's College, Jaipur
37.	Ranchi	128	Tata College, Chaibasa
		129	St. Columbia's College, Hazaribagh
38.	Sambalpur	130	Gangadhar Meher College, Sambalpur
39.	Sardar Patel	131	Vithalbhai Patel Mahavidyalaya, Vallabh Vidyanagar
40.	Shivaji	132	Rajaram College, Kolhapur
		133	Willingdon College, Sangli
		134	D. B. F. C. D. College of Arts & Science, Sholapur
41.	South Gujarat	135	B. P. Baria Science Institute, Navsari
42.	Sri Venkateswara	136	Jawahar Bharati, Kavali, Nellore District
		137	Smt. Padmavathi College for Women, Tirupati
43.	Utkal	138	Ravenshaw College, Cuttack
44.	Vikram	139	Madhav Vigyan Mahavidyalaya, Ujjain
		140	Government College, Ratlam

5. SELECTION OF ADDITIONAL COLLEGES UNDER THE COLLEGE HUMANITIES AND SOCIAL SCIENCES IMPROVEMENT PROGRAMME

During the Fifth Five Year Plan the College Humanities and Social Sciences Improvement Programme was initiated in fortytwo colleges to strengthen and enrich teaching, learning and examination processes in Humanities and Social Sciences at the undergraduate colleges. The list of these 42 colleges was published earlier in the Vol. 1 No. 1 April 1975 issue of the *Bulletin of Higher Education*. Subsequently the following twentyseven more colleges have been selected to participate in the COHSIP:

COLLEGES PARTICIPATING IN COSIP

S. No.	Name of the University		Name of the College
1.	Andhra	1	Andhra Loyola College, Vijayawada•
		2	St. Joseph's College for Women, Waltair
2.	Bombay	3	St. Xavier's College, Bombay
3.	Guru Nanak Dev	4	Barring Union Christian College, Amritsar
4.	Kanpur	5	Christ Church College, Kanpur•
5.	Indore	6	Govt. Arts, Commerce and Law College, Indore
6.	Kerala	7	C. M. S. College, Kottayam
		8	Maharaja's College, Ernakulam•
7.	Lucknow	9	I.T. College, Lucknow•
8.	Madurai	10	A. C. College of Arts and Science, Tiruchendur
		11	Kamraj College, Tuticorin
		12	S. T. College for Women, Tirunelveli
		13	Scott Christian College, Nagercoil
9.	Meerut	14	D. J. College, Baraut
		15	Ragha Nath Girl's College, Meerut
		16	M. M. College, Modinagar
10.	Poona	17	M. J. College of Arts and Science, Jalgaon
		18	V. W. Sabha's Arts and Commerce College, Dhulia
		19	S. S. V. P. Sanstha's Arts and Commerce College, Dhulia
11.	Sardar Patel	23	T. V. Patel Arts College, Vallabh Vidyanagar
12.	Sambalpur	21	G. M. College, Sambalpur•
13.	Sri Venkateswara	22	Jawahar Bharati, Kavali•
14.	S. N. D. T. Women's	23	Smt. N. C. Gandhi Mahila College, Bhavnagar
15.	Saurashtra	24	S. S. P. Jain Arts and Commerce College, Dhrangadhra
		25	D. K. V. Arts and Science College, Jamnagar
16.	Utkal	26	M. P. C. College, Baripada
		27	Bhadrak College, Bhadrak

•These Colleges are participating also in College Science Improvement Programme.

6. PATTERN OF ASSISTANCE TO COLLEGES FOR THE DEVELOPMENT OF POSTGRADUATE STUDIES DURING FIFTH PLAN PERIOD

The Commission has decided to provide assistance for improvement of facilities for postgraduate courses on a selective basis to colleges during the

5th Plan period. The purposes for which assistance would be available, the extent and pattern of assistance are indicated below:

Purposes

(i) buildings upto 25% of the total grant
(ii) equipment upto 20% of the total grant
(iii) books upto 20% of the total grant
(iv) additional staff upto 27% of the total grant (including 10% for faculty improvement)
(v) miscellaneous items 8% of the total grant.

Ceiling of Assistance per college in the Plan period	*UGC's Share*
(a) All postgraduate Departments in the Humanities and Social Sciences in affiliated colleges	Upto Rs. 1 lakh per department.
(b) Postgraduate Science Departments	
1. Physics & Chemistry Departments	Upto Rs. 2 lakhs per department.
2. Botany, Zoology, Geology, Biochemistry and Home Science Departments	Upto Rs. 1.5 lakhs per department.
3. Anthropology, Geography and Mathematics including Statistics Departments	Upto Rs. 1 lakh per department.

Sharing Basis

	UGC's share	*University/State Government/College*
Non-recurring		
Building		
(Teaching and Laboratory, Library)	50%	50%
Equipment and books	100%	Nil
Workshop (including shed)	100%	Nil
Animal House facility	100%	Nil
Recurring		
Additional Staff		
Reader	100%	Nil
Lecturer	75%	25%
Technical Staff	100%	Nil

Assistance for additional staff would be available on the undertaking that colleges would continue and maintain such posts from their own funds, when Commission's assistance ceases.

Commission's assistance is not available for starting new courses or for fulfilling any conditions of affiliation. It is also not available for purchase or acquisition of land or for purchase or acquisition of existing buildings or for renovation, dismantling and repairs of existing structures. It will also not be available for maintenance items as also for purchase of routine chemicals and glasswares.

The assistance for postgraduate departments will be available only for such departments which have provided facilities for postgraduate studies for at least two years and are in a position to supply the results of the first batch of students, from the college, in the university examination.

The college may prepare composite proposals for the development of postgraduate studies in the departments which would be examined with the help of a Visiting Committee appointed by the Commission before such proposals are accepted for assistance.

7. GENERAL PROGRAMME OF DEVELOPMENT OF UNDERGRADUATE EDUCATIONAL FACILITIES UPTO RS. 5 LAKHS PER COLLEGE DURING FIFTH PLAN PERIOD

The following pattern of assistance to colleges will be broadly followed:

1. Construction of buildings	Upto 1/3 of the total outlay; (UGC share).
2. Books & Journals and equipment	Upto 50% of the total outlay;(UGC share).
3. Faculty Improvement : additional staff and extension programmes	Not less than 1/6 of the total outlay; (UGC share)

The Commission has further decided that its assistance to a college for construction of buildings will not exceed 1/3rd of the total assistance of Rs. 5 lakhs as UGC share available to the college. The colleges will have the freedom to adjust the expenditure within the items relating to books and journals, equipment, faculty improvement and additional staff according to their requirements but the colleges will not be permitted to exceed the limit prescribed for construction of buildings.

The sharing basis for the various schemes that could be included within Rs. 5 lakhs:

Items	*Contribution by UGC*	*Contribution by College/University/ State Government*
Non-recurring		
1. Extension of building—libraries, (a) laboratories, class rooms including (b) furniture & fittings	50% 66.6% (in the case of colleges located in backward areas)*	50% 33.33%
2. Workshops, animal house (including shed) The assistance for workshop, animal house, green house (all put together will not exceed Rs. 1 lakh for any college)—	100% upto Rs. 1 lakh	Nil
3. (a) Hostel (Men)	75% (in case of colleges in backward areas)	25%

*The lists of backward areas as defined by the Planning Commission.

Items	*Contribution by UGC*	*Contribution by College/University/ State Government*
Non-recurring (Contd.)		
(b) Hostel (Men)	50% (in case of colleges in other areas)	50%
(c) Hostel (Women)	75%	25%
(d) Staff Quarters	50%	50%
(e) Books & Equipment	75%	25%
Recurring		
Additional Staff	50%	50%

Assistance for Purchase of Furniture/Fittings

The Commission provides assistance to colleges for extension of various buildings which interalia includes assistance for purchase of furniture/fittings. The Commission's assistance for purchase of furniture/fittings will be provided on the usual sharing basis for the various building projects on the following basis:

Building Projects	*Percentage of Assistance for Purchase of Furniture/Fittings*
Class Rooms	10% of the civil works cost
Laboratory Building	20% of the civil works cost
Library Building	20% of the civil works cost
Hostel	Rs. 325 per student for living room furniture

These are to be included in the estimates and within the ceiling prescribed for construction of buildings by the Commission.

The Commission had in April, 1975 invited proposals from colleges in two priorities—first within a ceiling of Rs. 3 lakhs and other within a ceiling of Rs. 2 lakhs as the Commission's contribution. The Commission has now decided that in the case of colleges which have a student enrolment and staff strength of 50 per cent more than prescribed under the eligibility conditions, the proposals may be considered for a total assistance of Rs. 5 lakhs instead of limiting them to Rs. 3 lakhs in the first priority.

Eligibility Condition

The minimum enrolment to be eligible to submit proposals under the Rs. 5 lakhs scheme is 400 students excluding pre-university/pre-degree/intermediate classes applicable generally to colleges providing three-year degree courses and 270 for colleges providing two-year degree courses. In the case of colleges which provide two-year courses in Arts, Science and Commerce and at the same time provide three-year courses in Agriculture in the same college the minimum enrolment of students for such a college to be eligible would be 335 students. Similarly, minimum number of teachers

in a college to be eligible to receive assistance would be 20 in the case of colleges having three-year degree courses and 15 in the case of colleges having two-year degree courses.

Special Provisions for Backward Areas under Rs. 5 lakhs Scheme

In the case of colleges located in backward areas as defined by the Planning Commission, the eligibility condition with regard to enrolment and faculty strength for purposes of assistance under the scheme would be as follows:

	Minimum Enrolment	*Faculty Strength*
Three-Year Degree Course	300	15
Two-Year Degree Course	200	10

The colleges from the backward areas while submitting their proposals are advised to obtain a certificate from the university concerned to the effect that it is satisfied that the college has made satisfactory progress and deserves Commission's assistance in relaxation of the normal rules of eligibility regarding enrolment and faculty strength. In the case of backward districts which have no institutions of higher learning, for example some of the backward districts in Orissa, the Commission has also decided that assistance for development of colleges in such areas will be considered without taking into account the minimum student enrolment/staff strength prescribed as eligibility conditions.

Supply of Data and Information

The following information in the prescribed proforma has to be supplied by the colleges while submitting proposals:

(a) Educational qualifications and experience of the teaching staff.
(b) Examination results.
(c) Expenditure incurred by the Colleges in the previous year towards:
  (i) Salary and allowances of the teaching staff
  (ii) Salary and allowances of the non-teaching staff
  (iii) Library books and journals (Recurring)
  (iv) Maintenance of Laboratories (Recurring)
  (v) Other expenses (Recurring).
(d) Total income.
(e) Qualification of Librarian.

It is necessary that the Commission has full information on these items in the case of accepted proposals and no grant beyond Rs. 1 lakh would be sanctioned to any college for payment unless the above information has been provided by the college concerned.

The Commission has requested the universities/State governments to set up a machinery to continuously review the development of the colleges and proper utilization of development grants available to them.

8. ASSISTANCE FOR DEVELOPMENT PROGRAMMES TO TEACHER TRAINING COLLEGES, LAW COLLEGES, COLLEGES OF PHYSICAL EDUCATION AND SIMILAR OTHER INSTITUTES DURING FIFTH PLAN PERIOD

The University Grants Commission has decided to continue its programme of providing assistance for development programmes to Teacher Training Colleges, Law Colleges, Colleges of Physical Education, Home Science Colleges, Schools of Social Work, Colleges of Fine Arts and Music etc., during Fifth Plan period and has accordingly finalised guidelines for preparation of development proposals by these colleges. The pattern of assistance and some of the important guidelines for development programmes of these colleges are given below:

Assistance to Teacher Training Colleges

The assistance to Teacher Training Colleges etc., will be provided within a ceiling of Rs. 1.5 lakhs as UGC's share during the Fifth Plan period on the following basis:

Name of the Scheme	*Pattern of Assistance*	
	Contribution by UGC	*Contribution by Colleges/State Govt.*
Extension of libraries and laboratories including furniture and fittings	50%	50% In the case of colleges in backward areas
	33-1/3%	66-1/3% In the case of other colleges
Purchase of books and equipment	75%	25%
Additional staff for improvement of practice teaching	100%	
Development of teaching materials and audio-visual aids	100%	

The minimum enrolment eligible condition for colleges to take up this development programme would be 100.

In respect of assistance for construction work, the Commission has further decided that during the Fifth Five Year Plan, assistance will not be made available for construction of hostels, accommodation for principal, and construction of staff quarters.

The Commission's assistance is not available for starting new training colleges or for fulfilling any of the conditions of affiliation. It is also not available for purchase or acquisition of land or purchase or acquisition of existing building or any renovation, dismantaling or repairs of existing structures. It will also not be available for maintenance items. Since the Commission's assistance to colleges of approved programmes will be available for the period ending March 1979, the development proposals may be proposed in order of priority to be determined by the colleges concerned

in the light of their essential needs and requirements of developments for the purposes already indicated above.

1. Assistance in respect of the building projects mentioned above for the training colleges would be limited to Rs. 1,00,000.

2. Assistance under the above scheme is limited to purely teacher training colleges. For multifaculty college (including teacher training, law, home science, physical education etc.), assistance is provided under the general scheme for assistance to arts, science and commerce colleges, under the Rs. 5 lakhs scheme for improvement of undergraduate educational facilities.

For the programme of developing teaching materials and audio-visual aids, the assistance from the Commission on a cent per cent basis may not exceed 1/5th of the total UGC's share of Rs. 1.5 lakhs. Normally colleges would include proposals for this purpose only to the extent of Rs. 25,000.

Assistance to Law Colleges/Colleges of Physical Education/Home Science Colleges/School of Social Work/Colleges of Fine Arts and Music and other Institutions of Higher Education.

Assistance for programmes like (i) Extension of buildings—libraries, laboratories, class rooms including furniture and fittings, (ii) Workshops (iii) Hostels, (iv) Books and equipment and (v) Additional staff would be assisted within Rs. 1.5 lakhs on the same sharing basis as for Rs. 5 lakhs scheme. In the case of these institutions, the minimum students enrolment for eligibility to seek assistance for the 3-year/2-year degree courses would be 100 and the total assistance from the UGC would not exceed Rs. 1.5 lakhs during the plan period.

9. ESSENTIAL TERMS AND CONDITIONS FOR RECEIVING ASSISTANCE FROM THE UGC

All colleges affiliated permanently or temporarily to universities but established before 17-6-1972 will be eligible to receive assistance from the Commission provided such colleges have been brought within the purview of Section 2(f) of the UGC Act.

Colleges which are brought within the purview of the UGC Act on or after 17-6-1972 will be eligible for assistance under various programmes of the Commission only after such colleges have been declared fit to receive assistance from the Commission in terms of the rules prescribed under Section 12A of the UGC Act. The assistance from the Commission is made for development and as such will not be available to enable colleges to fulfil any of the conditions of affiliation prescribed by the Universities. It is necessary for colleges to have students admitted upto the final year of the course or courses before a proposal is made by the college for assistance for development of the existing facilities. The Commission's assistance is available to colleges which have functioned well, and have managerial capacity. A certi-

ficate to this effect from the University concerned has to be forwarded to the Commission.

10. UNESCO INTERNATIONAL COUPONS SCHEME

The University Grants Commission obtains from time to time allocations of UNESCO Coupons from the Indian National Commission for Co-operation with UNESCO, Ministry of Education and Social Welfare, New Delhi.

These UNESCO Coupons are then made available on request to the Universities and Colleges to import minor scientific equipments and rare chemicals, not indigenously available through UNESCO Coupons without import licence. UNESCO Coupons are made available for such material which are not complete items of equipment and are mainly required for purposes of maintenance and replacements.

The educational institutions have to obtain the requisite proforma invoice from the foreign supplier (to whom UNESCO Coupons are acceptable), indicating therein the quotations in respect of the material to be imported, together with necessary declaration that the material are not available indigenously. UNESCO Coupons are, then, sold by the Commission to the Institutions, against payment in rupees equivalent to the Dollars as indicated in the Coupons. The payments are to be made by Demand Draft to the University Grants Commission.

The Institutions are expected to send a statement regarding proper utilisation of the UNESCO Coupons, purchased by them from the University Grants Commission.

LIBERALISATION OF IMPORT POLICY

The Government of India have liberalised the policy for the import of scientific equipment, X-ray films, high purity chemicals, technical & scientific books etc. during 1976-77. Extracts taken from Savings Clause 11-2 (d) (ii) 11-2(e), 11-2(g) and 11-2(k) of Appendix 2 vide para 2 of chapter I are reproduced below in this respect.

Extracts of Savings Clause as contained in the Import Trade Control Hand Book of Rules and procedure 1976-77

11-2(d)(ii) *X-Ray films and X-Ray diagnostic agents* by laboratories for research purposes, provided the c. i. f. value of such goods imported at any one time shall not exceed one thousand rupees.

11-2(e) *Scientific instruments, equipments, apparatus and appliances* whether electronic or electrically operated or otherwise, replacement parts thereof and components required for the construction of scientific instruments,

equipments, apparatus and appliances, whether electronic or electrically operated or otherwise the raw materials, required for research and development and declared as such by technical and research institutions and Research and Development units recognised by the Department of Science and Technology, Government of India, New Delhi for their own use upto a value not exceeding Rs. 1 lakh (c.i.f.) in a financial year. The importer shall give a declaration to the Customs Authority at the time of clearance indicating c.i.f. value of such goods already imported in the same year. It shall also be obligatory on the part of the importer to inform the Department of Science & Technology, Government of India, New Delhi within 30 days of the clearance of goods through the Customs the particulars of the goods imported.

11-2(g) *High Purity Chemicals* by Research and analytical laboratories, for their own use, provided the c. i. f. value of such goods imported at any one time shall not exceed one thousand rupees.

11-2(k) *Technical and Scientific books* permissible for imports under the import trade control policy in force at the time of importation by an educational, technical and research institution or university recognised by the University Grants Commission for its own use, provided the c.i.f. value of such goods imported in a financial year shall not exceed ten thousand rupees, and applications for remittance of foreign exchange are made through the University Grants Commission.

11. ADVANCED RESEARCH AND SHORT-TERM PROJECTS IN HUMANITIES AND SOCIAL SCIENCES SANCTIONED DURING FIFTH PLAN PERIOD

The University Grants Commission is providing financial assistance to university and college teachers for research and learned work in their respective fields of specialisation. The research study can be a short-term project which would be completed in a year or two; maximum assistance available from the Commission for short-term projects is Rs. 5,000. Support is also available for research work on intensive and depth studies which may take four to five years. Financial assistance is provided by the Commission on the advice of experts.

During the Fifth Five Year Plan period, the Commission made four awards and selected 90 advanced research projects at a cost of Rs. 21.88 lakhs and 553 short-term projects at a cost of Rs. 15 lakhs. The subject-wise break up of these projects is given in the following pages.

S. No.	Subject	Number of Projects approved	
		Advanced	Short-term
1.	Commerce	—	48
2.	History	18	77
3.	Economics	12	66
4.	Law	1	7
5.	Linguistics	9	20
6.	Assamnese	—	1
7.	Arabic	—	2
8.	Bengali	—	7
9.	English	—	23
10.	Gujarati	1	1
11.	Hindi	5	29
12.	Kannada	1	2
13.	Manpuri	—	1
14.	Marathi	—	5
15.	Malayalam	—	5
16.	Oriya	1	4
17.	Persian	—	2
18.	Punjabi	—	3
19.	Sanskrit	4	10
20.	Tamil	1	6
21.	Telugu	—	5
22.	Chinese	—	1
23.	Urdu	—	7
24.	Philosophy	10	20
25.	Political Science	6	51
26.	Psychology	6	36
27.	Sociology	10	43
28.	Social Work	—	1
29.	Library Science	—	3
30.	Journalism	—	1
31.	Teacher Education	5	66
	Total	90	553

A list of 24 Advanced Research Projects has been published earlier on pages 20-22 of the Vol. 1 No. 1 April 1975 issue of the *Bulletin of Higher Education*. In addition to these, details of 66 projects are given below:

ADVANCED RESEARCH PROJECTS

S. No.	*Name of the Scholar*	*Title of the Project*
History		
1.	Shri Kamaluddin Ahmed Karimganj College, Karimganj (Assam).	Arts and architecture of Assam: A historical study of the art and architecture of Assam from the ancient time to the end of the Ahom rule.
2.	Dr. (Mrs.) Sarojini Shende Elphinstone College, Bombay.	Editing and writing the critical introduction for 'The dance-dramas of Tanjore'.
3.	Shri Amita Ray Calcutta University.	Life and Art in early Andhra desa.
4.	Dr. J. S. Grewal Guru Nanak Dev University.	Urbanization in the Upper Bari Doab (1600-1947).
5.	Prof. R.V. Joshi Deccan College, Poona.	Studies on the chemical analysis of archaeological sites.
6.	Shri V.N. Misra Deccan College, Poona.	Early Man and his Environment in Northwestern India, with special reference to the Luni Basin in Rajasthan.
7.	Dr. R.G. Parikh Saurashtra University.	An index of Sources relating to the History of six states of Saurashtra in the 18th and 19th Centuries.
8.	Shri Adhir Chakravarti Jhargram Raj College, Midnapore (West Bengal).	Khmer palaeography.
Economics		
1.	Dr. P.R. Panchamukhi Unit of Economics of Education, Bombay University.	Socio-economic environment and education of women: A quantative analysis.
2.	Dr. C.H. Shah Bombay University.	Technological change in agriculture: Its nature, implications and measurement.
3.	Dr. S.K. Bhattacharyya Calcutta University.	Trade flows of West Bengal: An analytical survey.
4.	Prof. A. P. Ghosh Jadavpur University, Calcutta.	A scheme for research into growth of metropolitan cities of India.
5.	Dr. R.B. Misra Government College, Seoni.	Increasing income and production in Madhya Pradesh farming.
6.	Dr. L. S. Bhatt Jawaharlal Nehru University, New Delhi.	Squatter settlement in Delhi — A spatial and economic profile.

ADVANCED RESEARCH PROJECTS

S. No.	*Name of the Scholar*	*Title of the Project*
Economics (*Contd.*)		
7.	Dr. H.K. Manmohar Singh Punjab University.	Organisational behaviour. A comparative study of Public and Private sectors.
8.	Shri S.R. Subramaniam Tamilnadu Agricultural University, Coimbatore.	Pattern of consumption savings and investment in agriculture.
9.	Dr. Bidyadhar Misra Utkal University.	A study of the problems of marginal and small farmer and the working of the small farmers development agency in the district of Ganjam, Orissa.
Linguistics		
1.	Prof. S. Agesthialingam Annamalai University.	The social differentiation and stratification of Tamil in Madras City.
2.	Prof. K.T. Pandhrangi Bangalore University.	A critical edition of Alankaramanidarpana of Venkamatya.
3.	Dr. T. G. Manikar Bombay University.	Bibliography for Sanskrit Drama and Dramaturgy.
4.	Dr. Shantaram Ganesh Moghe Elphinstone College, Bombay.	Mimamsa in the critical edition of the Sraddha Sagara of Kullukabhatta.
5.	Prof. S. Venkitasubramonia Iyer Kerala University.	Dictionary of Natya Sastra.
6.	Prof. M.G. Dhadphali Fergusson College, Poona University.	Development of Pali Lexicography.
7.	Sr. Shantibhai Acharya Gujarat Vidyapith, Ahmedabad.	Linguistic survey of Gujarati dialects spoken in North Gujarat region.
8.	Prof. K.K. Raja Madras University.	Descriptive catalogue of manuscripts in Madras University Sanskrit Department.
Modern Indian Languages		
1.	Dr. Suresh Dalal S.N.D.T. Women's University, Bombay.	Developing a source book of poetry in Gujarati.
2.	Dr. B.B. Hendi Karnatak University, P.G. Centre, Gulbarga.	Survey, collection, editing, publication of folk tales and folk songs of North Karnatak.
3.	Prof. G.R. Reddy Andhra University, Waltair.	Fourth centinary celebration of Rama Charit Manasa—A comparative study of Hindi and Telugu Ramayanas.
4.	Dr. V.P. Singh Banaras Hindu University.	Fourth centinary celebration of Rama Charit Manasa—Human values given in Tulsi Manasa
5.	Head of the Hindi Department Gujarat Vidyapeeth, Ahmedabad.	Influence of Tulsidas in Gandhian thought.

ADVANCED RESEARCH PROJECTS

S. No.	*Name of the Scholar*	*Title of the Project*
Languages (*Contd.*)		
6.	Dr. A.P. Dixit Poona Univeristy.	Marathi translation of Ram Charit manas and other works of Tulsidas—A critical study.
7.	Dr. C. Balasubramanian Madras Univeristy.	Origin and development of literary criticism in Tamil.
Philosophy		
1.	Dr. Modh. Noor Nabi Aligarh Muslim University.	A comprehensive monograph on Ibn Rushd.
2.	Prof. Nityanand Mishra Bhagalpur Univeristy.	Indian Ethics. A study of the normative and Meta-ethical aspects of the Hindu Buddhist and Jaina Morals.
3.	Dr. R.C. Pandeya Delhi University.	English translation and analysis of Pratyaksha Lakshnam of Gangesa's work.
4.	Dr. Raghunath Giri Kashi Vidyapeeth.	Purushartha, its genesis and development in the Indian Tradition.
5.	Prof. S.S. Bardingay Poona Univeristy.	An account of completed and ongoing research in Philosophy in Indian Universities.
6.	Prof. S.S. Bardingay Poona University.	A study of the important concepts of Moral Philosophy in Indian philosophical thought.
7.	Dr. Daya Krishna Rajasthan University, Jaipur.	Index to the articles published in philosophical journals.
8.	Prof. T.N. Ganapathy Vivekanand College, Madras.	The philosophy of the Tamil Siddharas.
Political Science		
1.	Dr. (Mrs.) Susheela Kaushik Delhi University.	A study of the factors of the rise and growth of the Dravidian Movement.
2.	Dr. D.S. Choudhary B.N. Chakravarty University, Kuruksetra.	Bureaucracy and Economic development in Haryana : A study at the district level.
3.	Siri H.A. Khan Mysore Univeristy.	Assessment of the Public Library development in Tamilnadu, Andhra Pradesh, Karnataka and Maharashtra.
Psychology		
1.	Dr. M.M. Sinha Banaras Hindu University.	Effect of Hersaponin upon symbolic behaviour of Albino rats.

ADVANCED RESEARCH PROJECTS

S.No.	Name of the Scholar	Title of the Project
Psychology (*Contd.*)		
2.	Dr. G.C. Gupta Delhi University.	Information processing in human spatial orientation behaviour.
3.	Dr. (Mrs.) G.B. Mohanty Ravenshaw College, Cuttack.	A study of the effect of socio-economic status and academic achievement on the development of level of aspiration of children.
4.	Dr. S.K. Misra Utkal University, Bhubaneswar.	Amygdala lesions in the rat—A study of role of Amygdala in exploratory behaviour.
5.	Dr. B.N. Puhan Utkal University, Bhubaneswar.	The assessment of psychometric invariance of WAIS across two different cultures.
6.	Prof. R. Rath Utkal University, Bhubaneswar	Conceptual growth and class room achievement of primary school children of Orissa.
Sanskrit		
1.	Dr. Sadashiv Ambadas Dange Bombay University.	A moti index of the Purana's.
2.	Dr. Ram Murthi Sharma Delhi University.	Dictionary of Vedanta.
3.	Dr. Kaushalya Gupta Miranda House, Delhi University.	A study of Ganjifa a on the basis of Sanskrit and allied sources.
Sociology and Social Anthropology		
1.	Shri J.Radha Krishna Andhra University.	Social mobility among the Brahmins of Andhra Pradesh.
2.	Dr. A. Sharma Delhi University.	Study on sizing with particular reference to the uniforms and footwear used by the defence forces of India.
3.	Dr. S.C. Tiwari Delhi University.	Socio-biological study of three small endogamous isolated ethinic groups of Indo-Nepal-Tibetan border (as a pilot project).
4.	Dr. K.S. Mathur Lucknow University.	Cultural processes among the Jaunsarisa: A study of a Cis Himalayan tribe.
5.	Shri Sheikh Shabbir Nagpur University.	Muslims of Berar and Family Planning.
6.	Dr. P.C. Deb Punjab Agricultural University, Ludhiana.	Social implications of Green Revolution in Rural Punjab.

ADVANCED RESEARCH PROJECTS

S. No.	*Name of the Scholar*	*Title of the Project*
Sociology and Social Anthropology (*Contd.*)		
7.	Dr. Ram Ahuja Rajasthan University.	The prison system (Effectiveness and the effects of the prison system: A sociological analysis).
8.	Shri Y.S. Bhandauria Narain (P.G.) College, Shikhohabad.	A sociological study of 'History Sheeters'.
9.	Shri G.D. Kobra Vidyabhawan Rural Institute, Udaipur.	Towards a synargistic and catalyst induced approach for micro-regional development in a group of villages near Udaipur in Rajasthan.
Teacher Education		
1.	Prof. S.B. Adaval Allahabad University.	Analysis and improvement of tools and techniques of selection to M.Ed. courses.
2.	Dr. V. Esvara Reddy Andhra University, Waltair.	The study of the social situation of college and university teachers. - An enquiry into the conditions of teaching profession in Higher Education.
3.	Prof. E.A. Eapen Department of Communication Engineering, Bangalore University.	Evaluation of satellite instructional television experiment (software) in Karnatak cluster.
4.	Prof. (Mrs.) Pratibha Rao Bombay University.	Effects of revaluation of the results of candidates appearing at the University Examinations.
5.	Dr. A.W. Oak P.V.D.T. College of Education for Womzn, Bombay.	Content analysis and diagnostic tests in Algebra and Geometry for Std. VIII.

12. MAJOR RESEARCH PROJECTS IN SCIENCE SANCTIONED DURING FIFTH PLAN PERIOD

S.No.	Name of the Principal Investigator	Title of the project
1	2	3
	Anthropology	
1.	Dr. P.K. Seth Delhi University.	Genetical and behaviourial variability in Rhesus monkeys living under different ecological conditions.
2.	Prof. B.M. Das Gauhati University.	A study of certain anthropological variables in the population of North East India with special reference to the tribal population.
	Meteorology	
1.	Prof. V.P. Subramanyam Andhra University.	Studies in Urban Meteorology of Visakhapatnam.
	Botany	
1.	Prof. D.D. Pant Allahabad University.	Comparative morphotaxonomic studies of living and fossil plants.
2.	Prof. J.V. Pantulu Andhra University.	Cytogenetic mapping of mutatant phenotypes and cytochemistry of B-chromosomes in *Pennisetum typhoides*.
3.	Dr. E.R.S. Talpasayi Banaras Hindu University.	Physiological and biochemical studies on the perennation of blue-green algae.
4.	Dr. S.N. Agashe Bangalore University.	Paleobotanical studies of certain gondwana strata.
5.	Dr. K.S. Bilgrami Bhagalpur University.	Physiological and biochemical studies on seed-microflora.
6.	Dr. S.B. Chaphekar Institute of Science, Bombay University.	Effects of industrial air pollutants in plants.
7.	Dr. S.G. Torne S.P. Chowgle College, Margoa, Goa, Bombay University.	Cytogenetic studies on *asclepias curassavica L.*

1	2	3
Botany *(Contd.)*		
8.	Prof. S.K. Chatterjee Burdwan University.	Studies on the physiology of senescence in plants and its practical implication.
9.	Dr. A.K. Banerjee Burdwan University.	Production of amino acids by microbial fermentation.
10.	Dr. A.K. Chandra Calcutta University.	Exploring biological nitrogen fixation capabilities of the phyllosphere organisms in crop plants.
11.	Dr. R.P. Purakayastha Calcutta University.	Investigation on the growth and improvement of an edible mushroom with a view to determine its suitability for cultivation.
12.	Dr. R.N. Basu and Dr. T. K. Bose University College of Agriculture, Calcutta University.	Physiology of seed deterioration.
13.	Dr. R. Choudhury Calcutta University.	Nucleic acid changes in Ehrlich's ascites cells after antibiotics and related drug treatments.
14.	Dr. S.C. Datta Calcutta University.	Effects of herbicides on germination, growth and establishment of selected weed species.
15.	Dr. Sumitra Sen Calcutta Univesity.	Analysis of chromosomes, chemical constituents and artificial culture of Indian squill and their cytotypes with a view to increase active medicinal principle.
16.	Dr. S.C. Roy Calcutta University.	Isolation of leaf protoplast and its regeneration with a view to obtain somatic hybrid.
17.	Dr. N. Samajpati Calcutta University.	A survey of pathogenic and non-pathogenic fungi of West Bengal in relation to national economy.
18.	Dr. K.S. Manilal Calicut University.	A reinvestigation of the medical plants in hortus malabaricus.
19.	Prof. A.S. Paintal and Prof. S.C. Maheshwari Delhi University.	Investigations on the existence and physiological role of acetylchlorine in plants.

1	2	3
Botany (*Contd.*)		
20.	Dr. A. Rashid Delhi University.	Improvement of crop plants through sometic cell hybridization.
21.	Dr. G.S. Paliwal Delhi University.	Organization, ultrastructure and seasonal behaviour of cambium and pholem in some Indian trees.
22.	Dr. A. M.M. Ialoraya Indore University.	Phytochrome and photomorphogenic reactions in the control of photomorphogenesis in plants.
23.	Dr. Sipra Guha Mukherjee J.N. University, New Delhi.	Effect of light and hormones on the control of enzyme synthesis in higher plants.
24.	Dr. Sipra Guha Mukherjee Jawaharlal Nehru University.	Utilization of haploids for improvement of economically important plants.
25.	Dr. B.D. Sharma Jodhpur University.	Ferns and fernallies of Rajasthan: morphology, anatomy and physiological studies.
26.	Dr. N.S. Sankhla Jodhpur University.	Studies on photosynthetic characteristics of Indian desert plants with special reference to C_4-pathway of carbon reduction.
27.	Dr. P.N. Srivastava Jodhpur University.	Soil algae and their biology.
28.	Dr. M. G. Panchaksharappa, Karnatak University.	Cytochemical analysis of plant tissues in the vegetative and reproductive structures.
29.	Dr. S.G. Bharati Karnatak University.	Limnological studies in ponds and lakes of Dharwar, Karnatak State.
30.	Dr. S. M. Jorapur Karnatak University.	Cytotaxonomical and cytochemical studies of orchids.
31.	Dr. V. Kaul Kashmir University.	Biological and productivity studies on some typical wetlands in Kashmir.
32.	Dr. D.P. Zutshi and Dr. B.A. Subla Kashmir University.	The effect of ecological changes on Kashmir valley lakes.

1	2	3
Botany (*Contd.*)		
33.	Dr. G.N. Javeid Kashmir University.	Taxonomy studies of the aquatic and wet-land vascular plants of Kashmir in relation to their productivity.
34.	Dr. C.V. Subramanian Madras University.	Study of the fungus flora of South India.
35.	Prof. T.V. Desikachary Madras University.	Studies on South Indian algae.
36.	Dr. D. Subramanian Madras University.	Biochemistry of host-pathogen interactions in fungal diseases of plants.
37.	Dr. R. Kalyansundaram Madras University.	Fungal immunoserology.
38.	Dr. (Miss) E.K. Janaki Ammal Madras University.	Ethnobotanical survey of South Indian economic plants with special reference to collection and utilization of primitive cultivers.
39.	Dr. K.M. Mathew St. Josephs' College Tiruchirapalli, Madras University.	The Carnatic flora project.
40.	Dr. A.R. Mehta M.S. University Baroda.	Physiological and biochemical investigations of differentiation in higher plants.
41.	Prof. P.S. Ramakrishnan N.E. Hill University.	Ecosystem function of pine forests of Meghalaya.
42.	Dr. M.L.H. Kaul N.E. Hill University.	Improvement of seed protein production in rice and pea (work to be restricted to pea only).
43.	Dr. N. Ramayya Osmania Univesity.	Floristics and foliar demotypes of the angiosperm of Hyderabad district.
44.	Dr. K.V.N. Rao Osmania University.	Investigations on the corelation between the structure and the growth regulating activity of proanthocyanidins or leucoanthocyanin and their effect on the growth and metabolism of cultured carrot explants.
45.	Dr. S.S. Kumar Punjab University.	Cytotaxonomic studies together with ecological observations in West Himalayan mosses.

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1	2	3
Botany (*Contd.*)		
46.	Dr. Baxi M.B. Sinha Patna University.	Cytogenetic and niosystematic studies in ferns.
47.	Prof. S.S. Bir and Dr. B.S. Gill Punjabi University, Patiala.	Cytogenetical investigations on the hardwoods from the Northern, Central and Southern India.
48.	Dr. (Mrs.) A. Pillai Rajasthan University.	*In vitro* anatomical and histochemical studies of shoot apical meristems during transition to flowering.
49.	Dr. T.N. Bharadwaja Govt. College, Ajmer, Rajasthan University.	Cytotaxonomic and experimental studies of the pteridophytic flora of Rajasthan.
50.	Prof. J.J. Shah Sardar Patel University.	Studies in sapwood and heartwood of forest trees in Gujarat.
51.	Dr. G.L. Shah Sardar Patel University.	Phytosociological studies on vegetation of Gujarat State.
52.	Dr. V.K. Rai Saurashtra University.	Ecophysiology of water stress in plants.
53.	Dr. M.Y. Naidu and Dr. D. Adinarayana Sri Venkateswara University.	Search for new phytoalexins and related compounds.
54.	Prof. L.P. Mall Vikram University.	Investigations on the role of industrial waste.
55.	Dr. K.C. Gupta Vikram University.	Development of genetics of drought-resistant and drought sensitive crops.
Biochemistry/Biosciences		
1.	Dr. J.C. Edwards and Dr. Pramila Gupta Allahabad Agricultural University.	Biological control of mosquitoes using a nematode parasite.
2.	Dr. V.K. Venugopalan Annamalai University.	Studies on organic matter in the coastal waters of Porto Novo.

1	2	3
Biochemistry Biosciences (*Contd.*)		
3.	Prof. D.P. Burma Banaras Hindu Univesity.	Structural topography of the ribosomes and their subunits.
4.	Dr. (Mrs.) Maharani Chakravarty Banaras Hindu University.	Molecular biology of host virus relationship.
5.	Dr. G.C. Chatterjee and Dr. (Mrs.) A. Sharma Calcutta University.	Studies on the biochemical and genetitical effects of certain environmental factors like insecticides, pesticides, organchlorine pollutants and heavy metal toxicants on living systems.
6.	Dr. U.K. Misra G.B. Pant University of Agriculture & Technology, Pantnagar (Nainital).	Relationship of dietary protein to lipid metabolism.
7.	Dr. T.A.V. Subramanian V.P. Chest Institute Delhi University.	Metabolic studies on drug resistance and sensitive mycobacteria.
8.	Dr. M.K. Jyoti Jammu University.	Studies on the productivity on Shuiansar lake, Jammu.
9.	Dr. J. Jayaraman Madurai University.	Dynamic nature of mitochondrial membrane function in relation to cellular environment.
10.	Dr. A. Gnanam Madurai University.	Regulation of photosynthetic carbon flow by ammonium compounds.
11.	Dr. R. Jayaraman Madurai University.	Genetics of RNA polymerase in escherichia coli.
12.	Dr. V.R. Muthukkaruppan Madurai University.	Development of immunogenetic in reptiles: A phylogenetic approach to understand immunological mechanism.
13.	Dr. M. Lakshmanan Madurai University.	Studies on blue-green algal viruses.
14.	Prof. S. Krishnaswamy Madurai University.	Mass culture of fairy shrimp *Streptocephalus dichotomus* baird.
15.	Dr. G. Kulanandivelu Madurai University.	Photo and biochemical changes in ageing heterotrophic culture scenedesmus under nutrient deficient conditions.

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Biochemistry/Biosciences (*Contd.*)		
16.	Dr. (Mrs.) K. Jayaraman Madurai University.	Transcriptional regulation of eucaryotic development.
17.	Prof. C.V. Ramakrishnan M.S. University Baroda. and Dr. Krishnamoorty Medical College Madurai.	Studies on Kwashiorkar and Marasmus children in Madurai and Trivandrum.
18.	Dr. S.K. Srivastava M.S. University Baroda.	Regulatory relationship between originine and nucleic acid metabolism in plant tumour tissues.
19.	Dr. L.J. Parekh M.S. University Baroda.	Studies on citrus vesicle callus maintained in vitro with special reference to biosynthesis of citric acid.
20.	Dr. T.N. Pattabhiraman Osmania University.	Metabolism of plant functions.
21.	Dr. K. Sivarama Sastry Osmania University.	The photochemistry of purines and nucleic acids.
22.	Dr. P.K. Srivastava Punjabi University, Patiala.	Human antigens research programme.
23.	Dr. John Barnabas Ahmednagar College, (Poona University.)	Molecular forms, genetics and evolution of himoglobins of *bovids in descent*.
24.	Dr. P.J. Vithayathil Indian Institute of Science, Bangalore.	Studies on the structure and physicochemical properties of caseins from Cow and Buffalo to obtain basic information to improve milk processing and products.
25.	Dr. N. Appaji Rao and Prof. C.S. Vaidyanathan Indian Institute of Science, Bangalore.	Studies on the regulation of the biosynthesis of methionine and of the coenzyme nucleotide in plants.
26.	Dr. S. Krishnamoorty Indian Institute of Science, Bangalore,	Hormonal regulations of lipogenesis.

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Biochemistry/Biosciences (*Contd.*)		
27.	Dr. M.C. Dash Sambalpur University.	Growth and production and energetics in commercially important Indian frogs.
28.	Dr. Y.R. Malhotra and Dr. M. K. Jyoti Jammu University.	Studies on fecundity and life cycles of fishes of Jammu with methods to increase fish seed for use in pisciculture.
Entomology		
1.	Dr. T.N. Ananthakrishna Loyala College, Madras.	Bio-taxnomy of gall strips and pathological anatomy of therips gall.
2.	Dr. A.K. Bhattacharya Banaras Hindu University.	Biophysical studies on Erchirichia coli.
Chemistry		
1.	Dr. S.P. Mushran Allahabad University.	Kinetics and mechanism of oxidation of sugars by some less familiar oxident.
2.	Dr. Arun K. Dey Allahabad University.	Metal chelate formation involving carcinogenic, anticancer and antitubercular compounds as ligands.
3.	Dr. H.S. Singh Allahabad University.	Mechanistic study of transition metal complexes catalysed reaction between ion and diplolar molecules with special reference to structure and reactivity.
4.	Dr. M.P. Singh Allahabad University.	Studies in kinetics and mechanism of oxidation of some organic compounds by some oxidants through one electron and two electron transfer processes.
5.	Dr. S.A.A. Zaidi Aligarh Muslim University.	The synthesis, characterization and the physico chemical studies of the transition metal complexes of Indazoles having potential biological activity and corrosion inhibiting properties.
6.	Dr. (Mrs.) Krishna Misra Allahabad University.	Use of activatable protecting groups in the synthesis of oligonuclestides.
7.	Dr. Naseer Ahmed Aligarh Muslim University.	Synthesis and use of pseudo contact *mr, nmr* shift reagents.

1	2	3
Chemistry (*Contd.*)		
8.	Dr. M.A. Beg Aligarh Muslim University.	Reactions of Transition metal Halides in the solid State.
9.	Dr. G.S. Gupta* Aligarh Muslim University.	Chemical studies in the indigenous medicinal and aromatic plants.
10.	Dr. Nurul Islam Aligarh Muslim University.	Optical spectra electrical conductances, densities, viscosities, diffusivity, thermodynamic and electrochemical measurements of molten salt systems and their technical applications.
11.	Dr. J.P. Singal Aligarh Muslim University.	Absorption and reactions of pesticides organics and traco metals on clay soils.
12.	Prof. V. Pandu Rangarao P. G. Centre, Guntur, (Andhra University).**	Studies on metal chelate compounds and their solvent extraction and catalytic activity.
13.	Dr. Kalluri Subba Rao Banaras Hindu University.	Cellular proliferation and hypertrophy in developing brain—the possible effects of under nutrition.
14.	Dr. (Mrs.) K. Rajeswari and Dr. K. Ranganayakulu, Banaras Hindu University.	The mechanism of rearrangement of cyclopropyl allylcations.
15.	Dr. O.P. Malhotra Banaras Hindu University.	Studies on transient enzyme substrate covalent intermediates.
16.	Dr. S.N. Bhat Banaras Hindu University.	Electronic behaviour of biological materials.
17.	Dr. S.N. Bhat Banaras Hindu University.	Electronic batteries using organic charge transfer complexes.
18.	Dr. I. M. Mukherjee Banaras Hindu University.	Thermometric titrations and related measurements in aqueous and some nonaqueous media.

* Since died.

** Now Nagarjuna University.

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Chemistry (*Contd.*)		
19.	Dr. K.M. Sivnandaiah Bangalore University.	Synthesis of peptides of biological interest.
20.	Prof. P. S. Radhakrishna-murthy Berhampur University.	Redox reactions with Ferri-cyanide.
21.	Dr. O.P. Jha, Bhagalpur University.	Chemical and biological screening of medicinal plants of Bhagalpur for antifertility and abortificient properties.
22.	Dr. H.P. Agarwal Bhopal University.	Studies on electrode-solution interfaces.
23.	Dr. A.S. Murthy Birla Institute of Technology and Science, Pilani.	Molecular interactions spectroscopy and theory.
24.	Dr. R.C. Srivastava Birla Institute of Technology and Science, Pilani.	Non-equilibrium thermodynamics of oscillatory phenomena in membranes.
25.	Dr. S. L. Gupta Birla Institute of Technology and Science, Pilani.	Polarography of complex metalion with particular reference to (i) the structural influence of complex and (ii) the role of solvent on the stability of the complex and its kinetic parameter.
26.	Dr. Rup Dutta Birla Institute of Technology and Science, Pilani.	Effect of exchange cation on the catalytic activity of Indian clay minerals.
27.	Dr. A. Syamal Bombay University.	Studies on metal complexes of biologically active polydentate ligands.
28.	Prof. R.L. Dutta Burdwan University.	Flexidentale behaviour of polydentate ligands.
29.	Dr. P. Bandhyopadhyay Calcutta University.	Investigation on the co-ordination chemistry of biologically active transition elements with vitamins and related compounds.
30.	Dr. A. Banerjee Calcutta University.	Reaction of heterocyclic compound studies on alkaloids oxygen and nitrogen heterocycles, their transformations and synthesis.

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Chemistry (*Contd.*)		
31.	Dr. K.M. Biswas Calcutta University.	Synthesis reaction with screening of Indole derivatives having pharmacological and insecticidal properties.
32.	Prof. M.M. Chakravarty Calcutta University.	Development of micro-analytical techniques in the testing of vegetable oil based products with a view to use them for detection of adulteration.
33.	Dr. Premmoy Ghosh Calcutta University.	Chemical modification of natural polymers and synthesis of graft co-polymers therefrom with the objective of obtaining improved properties.
34.	Dr. Samar K. Kundu Calcutta University.	Status of lipids and their compositional charges with vitamin deficiencies protein calories malnutrition and diminished thyroid function.
35.	Dr. S. Mukherjee Calcutta University.	Studies on regulation of Hyper cholesterolemia and Hypertrigly-caridemia in humans and experimental animals by "modified Butterfats."
36.	Dr. S.K. Talapatra Calcutta University.	Chemistry of the biologically active principles of the medicinal plants of North-East India.
37.	Dr. C.P. Savariar Calicut University.	Liquid-ion exchangers for the separation of various constituent elements of the beach sands of Kerala.
38.	Dr. V.K. Ahluwalia Delhi University.	Studies in photodynamically active compounds.
39.	Dr. A.K. Banerjee Delhi University.	Homogeneous catalysis by transition metal complexes.
40.	Dr. A.N. Maitra Delhi University.	Studies on the mechanism of the inhibition action of some organic compounds on the acid corrosion of metals.
41.	Dr. K.B. Pandeya Delhi University.	Co-ordination Chemistry of trace elements in human body.
42.	Prof. Harish C. Gaur Delhi University.	Thermodynamics and electro chemistry of molten salts.

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Chemistry *(Contd.)*		
43.	Dr. M.V.R. Rao Delhi University.	Investigations on the conformation and hydrodynamic behaviour of proteins and synthetic polypetides.
44.	Prof. R. C. Mehrotra Delhi University.	Apparently covalent compounds of highly electropositive elements and their applications in biological systems.
45.	Prof. R.P. Singh Delhi University.	The chemistry of some metal chelate compounds.
46.	Prof. G.S. Saharia Delhi University.	Synthesis of some nitrogen heterocycles, their electrochemical and pharmalogical studies.
47.	Dr. S. Lahiry Delhi University.	Studies on ferroelectric crystals developed with paramagnetic impurities.
48.	Prof. R.P. Rastogi Gorakhpur University.	Thermodynamics of dissipative structure and other related far from equilibrium phenomena.
49.	Prof. R.P. Rastogi Gorakhpur University.	Thermodynamics studies of membrane phenomena.
50.	Dr. S. C. Tripathi and Dr. S.C. Srivastava Gorakhpur University.	Metal complexes of biological importance.
51.	Shri P.P. Singh M.L.K. College Balrampur. (Gorakhpur University).	Structural studies of metal tetrathiocynate and hexa thiocynate complexes.
52.	Prof. S.S. Sandhu Guru Nanak Dev University.	Studies of the interaction of metal ions with model biological molecules.
53.	Prof. A.C. Jain Himachal Pradesh University, Simla.	Constitutional and synthetic studies in organic natural products.
54.	Prof. P.K. Bhattacharya and Prof. C. C. Patel Indian Institute of Science, Bangalore.	Studies on the kinetics and specifically of metalions and their complexes in *Enzymo* models.
55.	Prof. C. C. Patel Indian Institute of Science, Bangalore.	Construction of an electron spin resonance spectrometer.

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Chemistry *(Contd.)*		
56.	Dr. S. C. Bera Jadavpur University.	Sepectroscopic investigations of perturbed molecules.
57.	Prof. R.V. Gopala Rao Jadavpur University.	(i) Dynamical and equilibrium properties of liquid state and an accoustic approach to the study of the liquid state. (ii) Equilibrium and non-equilibrium properties of liquids and solutions.
58.	Prof. M.N. Das and Dr. K.K. Kundu Jadavpur University.	Studies on Electrolyte-solutions in Nonaqueous Media-Equilibrium Properties and reaction rates.
59.	Dr. R.K. Datta Jadavpur University.	A molecular orbital study of the bending of some simple orango metallic compounds.
60.	Dr. Amalendu Das Jadavpur University.	Investigations on Mucins.
61.	Dr. Ramagopal Bhattacharyya Jadavpur University.	Isolation and studies on the structure and bonding of some biologically active metal complexes with special reference their fungicdal and mosquito sterilising properties.
62.	Dr. K.K. Mahalanabis Jadavpur University.	Studies on the Chemistry of *isotniazole* rin systems.
63.	Prof. (Mrs.) K.K. Rohtagi Mukherjee Jadavpur University.	Photochemistry of biologically important molecules.
64.	Prof. G.S. Misra Jabalpur University.	Redox polymerization.
65.	Dr. Akshyamal Jodhpur University.	Volatile metal complexes of transition and inner transition elements (lanthanides and actinides).
66.	Prof. R.C. Kapoor Jodhpur University.	Kinetics of oxidations by metal ions.
67.	Dr. K. N. Mehrotra Jodhpur University.	Physical properties and industrial application of transition metal soaps.
68.	Dr. Sudhindra Misra Jodhpur University.	Reactions of co-ordinated ligands.

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	Chemistry (*Contd.*)	
69.	Prof. S. Rajagopal Regional Engineering College, Warangal.	Synthetic studies in nonsteroidal anti-fertility agents.
70.	Dr. K.K. Sengupta Jadavpur University.	Kinetics of the oxidation of some organic compounds by complex ions derived from rarer platinum metals.
71.	Dr. R.K. Meta Jodhpur University.	Investigations of the metal chelates of polydentales derived from homocyclic and heterocyclic carboxyl compounds and aminoacids.
72.	Prof. P. Sengupta Kalyani University.	Chemical and biological investigations of fungal metabolites.
73.	Dr. V. D. Patil Karnatak University, Dharwar.	(i) The synthesis of some selected substituted phenyl Benzimidazolyl sulphides, sulphones and their dailkylaminoethyl derivatives. (ii) The synthesis of substituted phenyl exagolo (a, 4-d) pyrimidine sulphides, sulphones, ethers and their pmr studies.
74.	Dr. S.M. Sawhney B.N. Chakravarty University.	Synthesis of thiazol derivatives as potential anti-inflammatory agents.
75.	Dr. H.R. Pujari B.N. Chakravarty University.	Synthetic studies on bridgehead nitrogen hetero cycles as potent anthelminitics.
76.	Dr. P.C. Puri B. N. Chakravarty University.	X-Ray diffraction and three dimensional crystal structure of determination of substances of chemical biochemical and Solid State interest.
77.	Dr. D. M. Puri B.N. Chakravarty University.	Formation constants and reaction mechanism of transition metal complexes.
78.	Dr. R.K. Nigam B.N. Chakravarty University.	Statistical thermodynamics of binary mixtures of non-electrolytes.
79.	Dr. K.S. Sharma B.N.Chakravarty University.	Synthesis of pharmacological activity of azasteroids.
80.	Dr. R.P. Gandhi B.N. Chakravarty University.	Light-initiated reactions: studies on some optically active compounds.

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Chemistry (*Contd.*)		
81.	Dr. V. Yatirajam B. N. Chakravarty University.	Studies in the chemistry of lower oxidation states of rhenium.
82.	Dr. G.S. Puranik Karnatak University.	Reactions of mesoimic compounds.
83.	Dr. R.K. Nigam B. N. Chakravarty University.	Anodic oxide films on valve metals.
84.	Dr. A.K. Sengupta Lucknow University.	Studies on potential pesticides insect hormones and their derivatives.
85.	Dr. P.S. Subramanian Madras University.	Photochemical studies on Indian asclepiadeaceae constituents of leptadenia reticulate.
86.	Dr. N.V. Subramanian Vivekananda College Madras. (Madras University)	Preparation of dimethyl sulfoxide from lingin waste.
87.	Dr. V.T. Ramakrishnan Madras University.	Organic photochemistry.
88.	Prof. S. Swaminathan Madras University.	Chemistry of natural products derived from marine animals.
89.	Prof. S. Swaminathan Madras University.	Molecular rearrangements.
90.	Dr. S. S. Pawar Marathwada University.	Effect of multiple intoxication of xenobiotics and drugs on the hepatic mixed function oxidase system.
91.	Dr. K.N. Munshi Nagpur University.	Studies in some mixed ligand complexes or rare earth metals.
92.	Dr. A.P. Joshi Nagpur University.	Solvent extraction study of some transition elements.
93.	Dr. M.V. Kaulgud Nagpur University.	Measurement of the thermodynamic and transport properties of aqueous binary liquid mixtures of amino acids, amines, alcohals, polyalcohals etc., with special reference to specific heat, viscosity, coefficient of cubiol expansion and free energy.

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Chemistry (*Contd.*)		
94.	Dr. M.N. Ray Nagpur University.	Mechanism of thermal decomposition of inorganic salts.
95.	Dr. K.N. Munshi Nagpur University	Studies in coordination chemistry of some rare elements.
96.	Dr. M.G. Parnjpe Nagpur University.	Synthetic and structural chemistry of 3-Oxo-4 aryl/alkyl - 5-arylimino-1, 2, 4 dithiazolidines and related systems.
97.	Prof. H.N. Khastigir North Bengal University.	Investigation of chemistry of natural products and their transformation—with particular reference to terpenoids and steroids.
98.	Dr. A.K. Ghosh North Bengal University.	Organot in coordination compounds preparation, physico-chemical biocidal properties.
99.	Prof. T.N. Rao* Osmania University Hyderabad.	(i) Kinetics and mechanism of photochemical reaction. (ii) Preparative organic photochemistry.
100.	Prof. M.M. Taqui-Khan Nizam College Hyderabad (Osmania University).	Homogenous catalysis by metal complexes of Group VIII.
101.	Prof. J.N. Chatterjee Patna University.	Design of electrochemical reacters for oxidation of organic compounds.
102.	Dr. M. Sharan Poona University.	Study of effect of radiation of the electrical conduction of some lithium and calcium salts and studies of their utilities as desio-meter.
103.	Dr. A.J. Mukhodkar Poona University.	Reaction of metal complexes and homogeneous catalysis.
104.	Dr. K.G. Marathe Poona University.	Photochemical and tracer studies in semi-synthetic steriod and penicillin system and related N.S.O. heterocycles.

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	Chemistry *(Contd.)*	
105.	Dr. N.S. Narasimhan Poona University.	Synthesis of hetero cyclic compounds
106.	Dr. V.D. Gupta Rajasthan University.	Synthetic and structural aspects of co-ordination compounds of metals derived from Amidoximes and Hydroxamic.
107.	Dr. R.K. Bansal Rajasthan University.	Synthesis of some novel hetero cyclics through Ylide-intermediates.
108.	Dr. J.P. Tandon Rajasthan University.	Studies of organic derivatives of boron containing boronnitrogen bond.
109.	Dr. C.M. Gupta Rajasthan University.	Polarography of food articles essential for human beings.
110.	Dr. B.C. Joshi Rajasthan University.	A search for some novel Anti-leprotic drugs.
111.	Dr. S.K. Srivastava Roorkee University.	Studies on inorganic ion exchange membrane.
112.	Dr. S.N. Tandon Roorkee University.	Studies on synthetics inorganic ion exchangers.
113.	Dr. S.S. Nigam and Dr. V.K. Saxena Saugar University.	Search for antifertile agent from Indian medicinal plants.
114.	Prof. R.D. Patel Sardar Patel University.	Synthesis of organomercurials and their antifungal activities.
115.	Dr. G.B. Behera and Dr. A. Nayak Sambalpur University.	Studies on heterocyclic compounds.
116.	Dr. A. Nayak Sambalpur University.	Studies on heterocyclic compounds of pharmacological importance.
117.	Prof. S. Pani Sambalpur University.	Reaction of transition metal complexes of hydroxy polybasic acids with uni and polydentate ligands.
118.	Prof. N. Appala Raju Sri Venkateswara University.	Investigations of some important subsidiary elements in a ores of Rayalaseema and other parts of Andhra Pradesh.

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	Chemistry (*Contd.*)	
119.	Dr. S.B. Rao Sri Venkateswara University.	Extraction polarographic studies.
120.	Prof. G.V. Bakore Udaipur University.	Kinetics studies of east reactions in selection study of some Electron Transfor Reactions of transition metal ions with compounds of biological significance.
121.	Dr. O.P. Mehta Udaipur University.	Ion exchange kinetics in nonaqueous and mix solvents using radio tracers.
122.	Dr. O.P. Mehta Udaipur University.	Self diffusion of ions in single crystals of alkali hydrogen phosphates.
123.	Dr. K.S. Suresh Udaipur University.	Synthesis of antimalarial drugs.
124.	Prof. S.R. Mohanty Utkal University.	Annealing and thermal decomposition behaviour of irradiated solid substances.
125.	Dr. K.P. Srivastava Birla Instiute of Technology and Science, Pilani.	Studies on the preparation and industrial application of molybdenum complexes and its mixed oxide catalysts.
126.	Dr. B.P. Das Visva-Bharati.	Studies of the insecticidal and anergistic activities of some carbasole derivatives and their degraded products.
127.	Prof. A.K. De Visva-Bharati.	Studies on synthetic inorganic ion exchanges.
128.	Dr. B.B. Nath Visva-Bharati.	Investigations on the metal ion activation of the blood coagulant fractions of the Russell's Viper Venom.
129.	Dr. K.C. Roy Visva-Bharati.	Studies on the electro-chemical properties of metal oxide solution interfac
130.	Dr. B.R. Rao Visva-Bharati.	Studies on polycyclics hydrocarbons and related systems.
131.	Prof. R.P. Rastogi, Gorakhpur University.	Thermodynamic studies of membrane phenomena.

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Chemistry (*Contd.*)		
132.	Prof. R.D. Patel Sardar Patel University.	Laevulinic acid from sucrose and Novalidiamine from laevulinic acid.
133.	Dr. A.K. Mukherjee Banaras Hindu University.	Studies of hetoro cycles.
134.	Dr. R. Balaji Rao Banaras Hindu University.	Synthesis and biological evaluation of analogues of Samandarine.
135.	Dr. R.N. Kapoor Jammu University.	Some transition metal derivatives of polydentate Teritary phosphines.
136.	Dr. J.P. Saxena Jodhpur University.	Chemical investigation of desert plants of Euphosbiacal family.
137.	Dr. P. C. Jain B. N. Chakravarty University.	X-ray diffraction and three dimensional crystal structure determination.
138.	Prof. R.C. Paul Panjab University.	Development of fluorine Chemistry.
Geography		
1.	Prof. Mohamad Shafi Aligarh Muslim University.	Measurement of agricultural productivity to delineate areas of high and low agricultural productivity in order to reduce regional imbalance.
2.	Dr. R.L. Dwivedi Allahabad University.	Spatial and functional organisation of service and development planning in Allahabad city.
3.	Prof. K. Bagchi Calcutta University.	Regional analysis of the littoral fringe of the Bay of Bengal.
4.	Prof. Moonis Raza Jawaharlal Nehru University.	Transport network commodity flows and regional structure of Indian economy.
5.	Dr. Jasbir Singh B. N. Chakravarty University.	Land utilisation and agricultural changes at size—level of operational holdings and land use planning in Haryana.
6.	Prof. S. Manzoor Alam Osmania University.	Study of metropolitan systems in India and the preparation of a socio-economic atlas of Indian cities.

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Geography (*Contd.*)		
7.	Dr. A.B. Mukerji Panjab University.	Service centres and regional development of Chandigarh Shiwalik hills—Dun tract.
8.	Dr. K.R. Dikshit Poona University.	Relief plantation in Konkan.
Geology Geophysics		
1.	Dr. S.N. Bhulla, Aligarh Muslim University.	A study of microfossils from the shelf regions of Goa and Kerala.
2.	Dr. Syed M. Zaiuddin Aligarh Muslim University.	Geochemistry, control and enrichment of major and accessory minerals in pegmatites of Bihar and Rajasthan mica belt.
3.	Dr. S. Sen Calcutta University.	Comparative studies of erosion and sedimentation in humid and semi arid environments.
4.	Dr. Andruddha De Calcutta University.	Volcanic history of ore mineralogy of the Deccan trap flow and intrusions in the Satpura region, M.P.
5.	Dr. Indrani Banerjee Calcutta university.	Study of paleocurrents in the Vindhyan basin.
6.	Dr. A.K. Banerjee Presidency College, Calcutta University.	Geological evaluation of the Precambrian belt of North Singhbhum: an integrated approach.
7.	Dr. S. Mukherjee Calcutta University.	Geological evaluation of Precambrians of the southern part of Purulia district and adjacent regions.
8.	Dr. S. Basu Malik Jadavpur University.	The investigations into the magnetization processes and the palaeomagnetic measurement of rocks.
9.	Shri Sachinath Mitra Jadavpur University.	A study of the dispersion of mercury and rare earth elements soils and preferetial absorption by clay minerals and plants over mineralized regions in Singhbhum, Gujarat and Tamil Nadu.

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Geology/Geophysics (*Contd.*)		
10.	Dr. Supriya Roy Jadavpur University.	Geological, mineralogical and geochemical study of the manganese ore deposits of Karnataka (Mysore) state with particular reference to Sandur manganese deposits, Bellary district.
11.	Dr. S.K. Chanda Jadavpur University.	Proterozoic tidal deposits in parts of Madhya Pradesh and Rajasthan and their palaeo geographic implications.
12.	Dr. A.D. Mukherjee Jadavpur University.	Metamorphism and deformation of sulphide ore deposits of Rajasthan with special reference to the mineralogy of the ores and its application to ore dressing.
13.	Dr. S.K. Bakshi Jadavpur University.	Stratigraphy of the sedimentary sequence around Neyveli with special reference to Neyveli lignite.
14.	Prof. M.S. Sadashivaiah Karnatak University, Dharwar.	Study of the flourine bearing waters of Dharwar, Balgaum, Gulbarga districts and brackish waters of Naralgund and Naragund of Karnataka State.
15.	Prof. M.N. Visvanathiah Mysore University.	(i) Hydrothermal growth and characterisation of quartz crystals eloped with rare elements. (ii) Para equilibria studies of lanthuide H_2O systems.
16.	Dr. V. Venkatachalapathy Mysore University.	(a) Palynological studies in the Precambrians (Kaladgis and Badamis) of Karnataka. (b) Micropalaeontological studies from the sediments of West coast of India. (c) Micropalaeontological investigations of the Intertrappeans of India.
17.	Prof. S.S. Merh M.S. University Baroda.	Quaternary geology and geomorphology of Gujarat with special reference to the coastal areas.
18.	Prof. V.L.S Bhimasankaram, Osmania University and Prof. V.K. Gaur, Roorkee University.	Development of integrated well logging equipment for shallow boreholes.

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Geology/Geophysics (*Contd.*)		
19.	Prof. Y.J. Rao Osmania University.	Geochemical investigations on the amphibolites and anorthosites of Khammam district of Andhra Pradesh.
20.	Dr. C. Leelanandam Osmania University.	Petrology and geochemistry of the anorthositic layered complex from Andhra Pradesh.
21.	Prof. B.G. Deshpande Poona University.	Groundwater resources of the Deccan trap region with special reference to (a) Mahatma Phule Krishi Vidyapeeth area, Rahuri, Nagar District, Maharashtra (b) Depoli Krishi Vidyapeeth area, Depoli, Ratnagiri District, Maharashtra.
22.	Dr. G.G. Deshpande Poona University.	Geology of the area around Kembhavi, Gulbarga district, Karnatak.
23.	Dr. B.B.S. Singhal Roorkee University.	Geoelectric modelling of aquifers.
24.	Dr. S.K. Babu Saugar University.	Study of basaltic glasses.
25.	Dr. B.K. Sahu Sambalpur University.	Geometrical and statistical properties of porous media.
26.	Dr. B. Das Saugar University.	Stratigraphy, structure and tectonic history of the area alongwith Great Boundary Fault, Rajasthan.
27.	Dr. K.K. Singh Vikram University.	Acidic, mafic and ultramafic magmatism and related mineral deposits in parts of M.P. adjoining regions.
Mathematics		
1.	Dr. J. Gopala Krishna Andhra University Waltair.	Probability techniques, Valiron Wiman theory and applications to differential equations in several complex variables.
2.	Dr. R.N. Pandey Banaras Hindu University.	Transport mechanism of living organism.

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Mathematics (*Contd.*)		
3.	Dr. N. Rudraiah Bangalore University.	(i) stability of conducting and non-conducting flows (ii) waves in a conducting fluid—incompressible and comprehensible (iii) Flow problem including lubrication problems.
4.	Prof. Nand Kishore Berhampur University.	Theory and applications of summability.
5.	Dr. Narhari Parhi Berhampur University.	A study of boundary value-problems for functional differential equations.
6.	Dr. (Miss) D. Rath Berhampur University.	(i) Studies in abstract harmonic analysis. (ii) Aspects of summability in sequence and function spaces.
7.	Prof. K.N. Srivastava M.A. College of Technology, Bhopal.	Stress distribution in composite solids.
8.	Dr. A.P. Baisnab Burdwan University.	A study on operations in topology and functional analysis, particularly on theory of fixed points.
9.	Dr. S.K. Chakrabarty Burdwan University.	Study of the effect of initial stresses and inhomogeneties on wave propagation in elastic and plastic media.
10.	Dr. S.P. Bandhopadhyay Calcutta University.	Valuation on universal algebra.
11.	Dr. V.B. Johri Gorakhpur University.	New theories of gravitation and their cosmological validation.
12.	Dr. O.S. Srivastava Gorakhpur University.	Shock waves in a dusty medium.
13.	Dr. S.K. Lakshmana Rao Regional Engineering College, Warangal.	Basic studies in polar fluid media.
14.	Prof. (Miss) A. George Kerala University Trivandrum.	Probability models in fertility.

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Mathematics (*Contd.*)		
15.	Dr. M.L. Gogna B. N. Chakravarty University.	Calculation of the regional travel time for the Indian region.
16.	Prof. D.N. Misra Saugar University.	Some problems in general topology.
17.	Dr. J. Krishna Rao Saurashtra University, Rajkot.	Gravitational radiation and gravitational collapse.
18.	Dr. A.P. Verma South Gujrat University.	Physico-mathematical study of flow systems in porous media.
Marine Science		
1.	Dr. K. Ramamoorthi and others, Annamalai University.	An environmental investor of Porto novo coastal zone.
2.	Dr. R. Damodaran Cochin University.	Studies on the hydrography, bottom fauna and plankton of the Vembanad lake
3.	Dr. P.N. Krishnan Nambiar, Cochin University.	Pollution in the Cochin backwaters and its impact on Marine Life.
4.	Dr. G.S. Sharma Cochin University.	Water characteristics and current structure in the inter tropical Indian Ocean.
Genetics		
1.	Dr. (Mrs.) M.G. Padma Osmania University.	Studies on the *Protective* role of Antibodies against *Entamaeba Histolytica* Infection in Albino rats as well as on the effects of gamma radiation on cultural, morphological and *Pathogenecity* of *E. Histolytica* and *E. H rtmauni* Strains.
2.	Prof. G. M. Reddy Osmania University.	Genetic, enzymatic and biocheamical studies of anthocyanin biosynthesis in maize.
3.	Dr. S. Subramanyam Osmania University.	Cytogenetical investigation on the effects of some common theraupeutic Drugs in Laboratory Animals An *in vivo* and *in vitro* Analysis.

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Genetics (*Contd.*)		
4.	Dr. J. S. Murthy Osmania University.	Anthropogenetic Studies of Andhra Pradesh tribes.
5.	Dr. D. S. Reddi Osmania University.	Studies on the Genetics and Somatic effects of Carbon^{14} in mice.
Microbiology		
1.	Dr. Y.I. Sethana Indian Institute of Science, Bangalore.	Structural characteristics and their relationship to the anti-tumour and insecticidal activities of a crystalline protein component of bacillus thuringiensis var. thuringinsis.
2.	Dr. T. Ramakrishnan Indian Institute of Science, Bangalore.	Effect of chelating agents on the growth and engyme systems of Rous Sarcoma virus.
Physics		
1.	Dr. M.P. Verma Agra College, Agra.	Dielectric behaviour of ionic covalent and ferroelectric crystals.
2.	Dr. J. C. Upadhyaya Agra College, Agra.	Lattice dynamics of metals and alloys.
3.	Department of Physics Aligarh Muslim University.	(a) Research programmes in the area of (i) nuclear physics including theoretical physics and (ii) solid state spectroscopy. (b) Research programmes in high energy physics.
4.	Dr. D.K. Gupta Sri Varshney College, Aligarh (Agra Univ.).	Experimental nuclear spectroscopy.
5.	Dr. (Mrs.) A. Bhanumathi, Andhra University.	Dielectric properties of polymers in solidstate and solution.
6.	Shri S.K. Ramaswamy and Shri S.S. Swetanarayan Annamalai University.	Construction of Nier type 1060 single focussing mass spectrometer.
7.	Dr. O.N. Srivastava Banaras Hindu University.	Electron microscope studies on the deformation and alloying behaviour of rare earth metals and of the defect structure of rare earth metal oxides.

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Physics (*Contd.*)		
8.	Prof. D.K. Rai Dr. K.N. Upadhyaya and Dr. S.N. Thakur Banaras Hindu University.	Construction of N_2 gas laser and a large Elbert spectrograph for the investigation of molecular spectra.
9.	Prof. D.P. Burma Institute of Medical Sciences, Banaras Hindu University.	Isolation of Ribosomal proteins by isoelectric focussing and their characterization by physical methods.
10.	Dr. N.G. Puttaswamy Bangalore University.	Mossbauer effect study of binary alloys.
11.	Dr. N. Devaraj Bangalore University.	Nuclear quadrupole resonance studies.
12.	Dr. P.K. Misra Berhampur University.	Properties of solids.
13.	Dr. L. Satapathy & Dr. (Mrs.) Mamata Satapathy Berhampur University.	(a) Study of fourbody correlations in in medium and heavy nuclei. (b) Phenomological and microscope studies of variation of intrinsic shape in the ground state bands of deformed and soft nuclei and the phenomenon of phase transition.
14.	Prof. M.C. Joshi Bombay University.	Heavy ion implementation in solids (semiconductors).
15.	Dr. B.N. Biswas Burdwan University.	Digital tracking loops.
16.	Dr. S.K. Sarkar Calcutta University.	Studies on atmospheric electricity during tropical thunderstorm and rain in relation to the physics of clouds.
17.	Prof. C.K. Majumdar Calcutta University.	Investigation of phase transformation.
18.	Prof. M. De and Dr. S.P. Basu Calcutta University.	Utilisation of optical techniques for studies on heat transfer.
19.	Prof. N.N. Dasgupta Calcutta University.	Biophysical studies on the structure of DNA replication complex.

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Physics (*Contd.*)		
20.	Prof. M. De Calcutta University.	Apodization and optical filtering in partially coherent light.
21.	Prof. A.N. Daw Calcutta University.	Metallization of semiconductors and dielectrics by the electroless plating technique.
22.	Prof. B.R. Nag Calcutta University.	High field surface carrier mobility in semiconductors.
23.	Prof. R.K. Poddar Calcutta University.	Molecular biology: Biophysical aspects.
24.	Prof. A.K. Choudhary Calcutta University.	Development of software for computer-aided system design.
25.	Prof. J.C. Palathingal Calicut University.	Theoretical investigation of nuclear structure and experimental measurements and life times of nuclear states.
26.	Dr. P.J. Joseph and Dr. V.K. Vaidyan Calicut University.	Mossbauer studies in photochromic materials and minerals.
27.	Dr. C.S.G.K. Setty Delhi University.	Studies of the ionosphere.
28.	Dr. K.D. Chaudhuri Delhi University.	Studies on different aspects of superconductivity and transport properties of solids.
29.	Dr. V.S. Nanda Delhi University.	Study of crystallization kinetics and other phase transitions in high polymers.
30.	Departments of Physics of- Delhi University, Panjab University, Jammu University, and Rajasthan University.	Collaborative research project on A-State of interaction of 400 Gev/protons with nuclei.
31.	Dr. M.D. Tiwari Birla P.G. College Srinagar, Garhwal (Garhwal University).	Study of impurities in solids.
32.	Dr. A.K. Barbara Gauhati University.	Studies on the ionosphere at Gauhati.

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Physics (*Contd.*)		
33.	Dr. K.M. Kotadia Gujarat University.	Multifrequency absorption radio waves in the ionosphere.
34.	Dr. R.G. Anikhindi and Dr. S.S. Abhyankar Indore University.	Study of dielectric properties of certain complexes and of organic semi-conductors followed by transition metals.
35.	Dr. K.P. Joshi Indore University.	Effective interactions in nuclei and realistic interactions.
36.	Prof. Y. Prakash Jammu University.	Study in phenomena in high energy physics using bubble chamber technique.
37.	Dr. S.N. Biswas Jawaharlal Nehru University (Now at Delhi University).	Application of statistical mechanics to non-linear ecological models of interacting species.
38.	Dr. A. Alluraiah Regional Engineering College, Warangal.	Digital electrometer.
39.	Prof. V. Venkateswara Rao Regional Engineering College, Warangal.	Development of systematic automatic design programme for the component objectives with special emphasis on photographic system.
40.	Shri D.R. Gupta Jodhpur University.	Electro-accoustic effects in plasma (ionised gas).
41.	Shri H. Saha Kalyani University.	Photoelectrical properties of Cds solar cells.
42.	Dr. Ashok Mathur P.P.N. College, Kanpur. (Kanpur University).	Fabrication and operation of an BLF receiver.
43.	Dr. S.D. Pandey P.P.N. College, Kanpur, (Kanpur University).	(a) Study of optical absorption, fluorescence and electrical conductivity in pure and doped crystals. (b) Study of electronic properties (electrical conductivity, dielectric constant and optical absorption) of doped crystals.

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Physics (*Contd.*)		
44.	Dr. N. Umakantha Karnatak University.	(a) Development of student laboratory: Experiments in nuclear physics. (b) Polarization effects on the energy loss of electrons.
45.	Dr. C.V. Sheth Karnatak University.	Theoretical investigations on the supporting power for protons.
46.	Prof. M. K. Khera Gulmarg Research Observatory, Kashmir University.	Secular variations of the atmospheric electricity parameters and the study of meteorological and radioactive influence on these.
47.	Dr. Vikram Singh B. N. Chakravarty, University.	Studies of the electric, magnetic and optical properties of the alloys in the crystalline and non-crystalline states.
48.	Prof. V.D. Gupta Lucknow University.	An experimental and theoretical study of conformation, confirmational statistics with special emphasis on biopolymeric systems.
49.	Prof. R. Srinivasan Madras University.	Molecular structure of compounds of biological interest.
50.	Dr. G.M. Srinivasan St. Joseph's College, Tiruchirapalli (Madras University).	Estimation of internal pressure in liquids, liquid mixtures and solutions and theory of liquid state.
51.	Dr. S. Jeyapandian St. Joseph's College Tiruchirapalli, (Madras University).	Investigations in the molecular force fields, compliance and their applications to the study of complexes and vibrational properties of disordered crystals.
52.	Dr. V. Devanathan Madras University.	Nuclear techniques applied to solid state physics.
53.	Shri R. Sabastian St. Joseph's College, Tiruchirapalli, (Madras University).	Fundamental studies in colour and theory of colour vision.
54.	Dr. S.K. Mohahalal Madurai University.	Investigations on the evaluation of accurate electron density distributions in crystalline solid solutions and other systems.

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	Physics (*Contd.*)	
55.	Dr. (Mrs.) Padmini Agarwal M.S. University Baroda.	Study of ultrasonic velocity and absorption in liquid crystals and liquid crystalline mixtures.
56.	Dr. R.K. Singh NREC College, Khurja. (Meerut University).	Investigation of localised excitation properties in defect harmonic solids.
57.	Dr. V.K. Agarwal Meerut University.	Dielectric behaviour of liquid crystals in magnetic and electric fields.
58.	Prof. D. Krishnamurti Mysore University.	Basic research on liquid crystals
59.	Dr. N.S. Murthy Mysore University.	Molecular sepectra of diatomic molecules.
60.	Dr. D.L. Radhakrishna Setty, Mysore University.	Nuclear and electron magnetic resonance spectroscopy
61.	Dr. N. Lingappa Mysore University.	(a) Gamma-X-ray coincidence studies (b) Nuclear reaction and scattering studies (c) Ionospheric studies
62.	Prof. C. Mande Nagpur University.	Study of X-ray scattering by solids
63.	Dr. R.M. Chaudhury Nagpur University.	Interaction of the dislocation and depant atoms in doped crystals of KCl and defects produced by depant.
64.	Dr. Ranjit Paul North Bengal University.	Study of liquid crystals ordering by X-rays.
65.	Dr. T.N. Mishra North Bengal University.	Investigation on charge transfer interactions and molecular excitations charge resonance interaction in biomolecules.
66.	Prof. V.T. Deshpande Osmania University.	Design and fabrication of X-ray power diffractometer and X-ray measurements of lattice parameters, thermal expansion Dalye temperatures and amplitudes of atomic vibrations of some rare earth compounds.

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Physics *(Contd.)*		
67.	Prof. K. Venkataramiah Osmania University.	Growth of single crystalline and polycrystalline materials and study of defects and physical properties.
68.	Prof. K. Venkataramiah Osmania University.	Fabrication of wide nuclear magnetic resonance spectrometer and study of single and polycrystalline Non-metallic solids.
69.	Prof. G. Sivaram Sastry Osmania University.	Studies on electrons spin resonance spectra of some transition materials.
70.	Dr. K.V. Krishna Rao Osmania University.	High Temperature and high pressure investigations on solids.
71.	Department of Physics Panjab University.	(a) Research programmes in nuclear physics using the cyclotrons facility (b) Research in nuclear spectroscopy and hyperfine fields (c) Research programme with Bubble Chamber.
72.	Department of Physics Poona University.	(a) To make effective utilization of the microtron facility. (b) To consolidate the instrument building programme, and (c) To create the basis required for a material science research programme using electron and ion spectrometry.
73.	Dr. K. Sathianandan & Dr. A.D. Tillu Poona University.	Fabrication of He-Ne-Co_2 N_2 Ar gas lasers and parameter measurement.
74.	Dr. R.D. Bide Ferguson College Poona.	Study of photoemissive, secondary electron emissive and photoconductive properties of ion implanted materials and chalcogenides.
75.	Dr. D.P. Dubey Punjabi University.	Radiation damage to proteins irradiated in dry state.
76.	Dr. H.S. Guram Punjabi University.	Stellar structure evolution and pulsation.
77.	Dr. H.S. Virak Punjabi University.	Deutron interactions.

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1	2	3
Physics (*Contd.*)		
78.	Prof. B.L. Saraf and Dr. Y.S. Shishodia Rajasthan University.	Study of electron momentum distribution and defects in materials using annihilation technique.
79.	Prof. S. Lokanathan Rajasthan University.	Study of 200 GeV 'P' interaction in nuclear emulsion
80.	Prof. S.K. Joshi Roorkee University.	Electronic transport properties in noble and transition metals and their dilute alloys.
81.	Dr. B.P. Singh Roorkee University.	Perturbed angular correlation studies of the radiations from the radioactive decay.
82.	Dr. M.K. Srivastava Roorkee University.	The study of scattering of atoms, ions and molecules by charged particles impact.
83.	Dr. J.D. Ranade Saugar University.	Preparation of alkaline-earth binary oxides and their possible applications in research and industry.
84.	Dr. H.S. Shah South Gujarat University.	Optical and magneto-optics of displaced metals.
85.	Dr. P. Jayarama Reddy Sri Venkateswara University.	Semiconducting films: transport and optical studies.
86.	Prof. J. Varma Udaipur University.	Mossbauer effect measurement of crystalline fields.
87.	Dr. S.K. Verma Udaipur University.	Studies on luminescence of alkaline earth phosphorus.
88.	Prof. J. Varma Udaipur University.	Measurement of quadrupole moments and gR factors.
89.	Prof. B.B. Deo Utkal University.	Problem of quantum electrodynamics
90.	Dr. S. Guha, Vikram University.	Instabilities in solid state plasmas
91.	Dr. V.S. Ananthanarayanan Indian Institute of Science, Bangalore.	Construction of differential microcalorimeter for application to biologically important systems.

1	2	3
Physics (*Contd.*)		
92.	Prof. M. Ramakrishna Rao, Indian Institute of Science, Bangalore.	Fabrication of helium-neon lasers.
93.	Prof. M. Vijayam Indian Institute of Science, Bangalore.	X-ray crystallographic and other investigations on the structure of biologically and medicinally important molecules.
94.	Prof. P.S. Narayanan Indian Institute of Science, Bangalore.	Growth of some ferroelectric, ferroelastic, piezoelectric and magnetic crystals and their characterization.
95.	Prof. M. Ramakrishna Rao Indian Institute of Science, Bangalore.	Development of ultra high vaccum system and electron beam sources for multilayer optical coatings.
96.	Prof. E.S. Raja Gopal Indian Institute of Science, Bangalore.	Instrument development of precision ultrasonic pulse interferometer for solid state studies and applications.
Physiology Medicine		
1.	Dr. Amal Kumar Mukhopadhyaya Banaras Hindu University.	A study on nucleic acid and protein metabolism in rat phyhthalamus.
2.	Dr. Shivanath Ghosal Banaras Hindu University.	Chemical and pharmacological evaluation of psycho active substances occuring in Indian medicinal plants.
3.	Dr. (Mrs.) Geeta Talukdar & Dr. Mrs. Ela Ghose Calcutta University.	Study of normal human fetals and amnionic cells for presence of genetic defects.
4.	Dr. Vijayee Singh Patna University.	Investigations about incidence of tuberculosis in Patna University students.
5.	Dr. S.D. Singh Meerut University.	Impact of urban environment on brain chemistry and the behavioural effects of cortical lesions in Rhesus monkeys.

1	2	3
Zoology		
1.	Dr. Santokh Singh St. John's College, Agra.	Ecology of high soil anthropods.
2.	Dr. R. Madhavi Andhra University.	Bionomes of helminth parasites of fresh water fishes pandiax pancha: and P. malatignia.
3.	Dr. D. Chandramohan Annamalai University.	Studies on the marine antagonistic streptomycetes.
4.	Dr. A.G. Sathyanesan Institute of Medical Sciences, Banaras Hindu University.	Endocrinc and neuroendocrine physiology in some fresh water fishes with special reference to reproduction and water pollution.
5.	Dr. Ajit Sodhi Banaras Hindu University.	Immunotherapy and Bio-theraphy of experimental tumours and its biology in mice.
6.	Dr. (Mrs.) Behrose Gandhi, Women's College Banaras Hindu University.	Hormonal regulation of enzymes activities in the liver and kidney of developing rats.
7.	Dr. P.S. Ramamurthy Banaras Hindu University.	Experimental studies on hormonal regulation of egg-maturation in honey bees.
8.	Dr. Shamim Haid Banaras Hindu University.	Studies on the induction of spawning and hypothalmic control of reproduction in some fishes.
9.	Dr. K.P. Srivastava Banaras Hindu University.	Insect endocrines and hormones in relation to development, reproduction and control of insect pests.
10.	Prof. M.S. Kanungo Banaras Hindu University.	Studies on the uses and prevention of aging of mammalian tissues.
11.	Dr. J.P. Gupta Banaras Hindu University.	Studies on ecology and pathogenic involvement of Indian Prosphillid.
12.	Dr. S.N. Singh Banaras Hindu University.	Age related modulations of enzyme activities in the brain and pituitary of rats by gondal hormones.

1	2	3
Zoology (*Contd.*)		
13.	Prof. J.P. Thapliyal Banaras Hindu University.	Reptilian embryology and foetal endocrinology.
14.	Prof. J.P. Thapliyal Banaras Hindu University.	Reproductive biology.
15.	Dr. B.N. Chowdaiah Central College, Bangalore University.	Mosquito cytogenetics.
16.	Dr. E. Radha, Bangalore University.	Study of the behavioural changes of certain poikilotherms and homotherms exposed to altered environments.
17.	Dr. (Mrs.) Nayeemunnisa Bangalore University.	Neuro chemical correlates of allonandiabetes.
18.	Dr. A.R. Kasturi Bai Bangalore University.	Studies on the silk worm.
19.	Dr. A.R. Kasturi Bai Bangalore University.	Studies on some aspects of the behaviour correlative to information storage in grass hopper *Poeciloera Picts.*
20.	Prof. J.S. Datta Munshi Bhagalpur University.	Functional morphology, ecology and Physiology of the air-breathing fishes of India.
21.	Prof. M.A. Qayyum Sofia College, Bhopal.	Studies on the autonomic innervation and histo-chemistry of the gastro-intestinal tract.
22.	Dr. B.R. Singh Bihar University.	Development of air-breathing organs and oxygen utilization of some air-breathing fishes in India.
23.	Dr. G.K. Lehri Regional College of Education, Bhopal.	Biochemical aspects of fish productivity and their application in Madhya Pradesh fisheries.
24.	Dr. P.V. Rangnekar Bombay University.	Studies of the neuroendocrine control of moulding, growth and reproduction in lobsters.

1	2	3
Zoology (*Contd.*)		
25.	Dr. G. Majumdar Burdwan University.	Biocenotical studies on nematodoses of some animals and man in six ecotones of West Bengal.
26.	Dr. S.K. Ghosal Burdwan University.	Studies of spermatogenesis and induction of aspermatogenesis in mammals including man.
27.	Dr. D.N. Raychaudhuri Calcutta University.	Studies on the aphids of Nagaland and Manipur with special reference to biology and control of some of the economically important aphid species.
28.	Dr. A.S. Mukherjee Calcutta University.	Genetic dissection of eukaryote geonomic organization: Role of nonhistone phosphorprotein.
29.	Dr. A. Choudhury Calcutta University.	Ecology of the tidal creeks and mud flats of Sagar island, Sunderbans, West Bengal.
30.	Dr. Ashok Ghosh Calcutta University.	Evaluation of different anti-fertility agents for the control of bandicoot rat population.
31.	Dr. V.K. Gupta Delhi University.	Studies on the taxonomy, zoogeography and evaluation of oriental ichneumonidae (Parasitic hymenoptera).
32.	Dr. C.M.S. Dass and Dr. S. Doraiswami Delhi University.	The mannakian salivary gland as a model for the study of regulation of cell division and differentiation.
33.	Prof. M.R.N. Prasad Delhi University.	Physiology of reproduction.
34.	Dr. C.L. Talesara Delhi University	Histophysiological investigations concerned with the fibre architecture differentiation, energy metabolism and its regulation in mixed and unmixed vertibrate skeletal muscles.
35.	Dr. S.R.V. Rao Delhi University.	Cytogenetical studies on rodents from the Indian sub-continent.
36.	Dr. K. Swarup Gorakhpur University.	Studies on endocrine glands related to plasma calcium regulation in certain vertebrates.

1	2	3
Zoology (*Contd.*)		
37.	Dr. G.S. Shukla Gorakhpur University.	Studies on the mode of ingestion and physiology of digestion of certain phytophagous, carnivorous and omnivorous insects.
38.	Dr. A.M. Vyas Gujarat University.	Study of small mammal populations.
39.	Dr. (Mrs.) N.J. Chinoy Gujarat University.	Metabolic significance of ascorbic acid for mammalian sperm motility and metabolism.
40.	Dr. V.C. Shah Gujarat University.	Genetics, cytogenetics, cytochemical and biochemical studies on leucoderma.
41.	Dr. S.C. Lakhotia Gujarat University.	Regulation of fuffing and gene activity in the polytene cells of Drosophila.
42.	Dr. S.D. Misra, Jodhpur University.	Hydrobiology and productivity of some fresh water reservoirs/lakes of semi-arid zone, Jodhpur (Rajasthan).
43.	Prof. G.K. Manna Kalyani University.	Impact of bacteria and drug induced chromosome abberations.
44.	Dr. K.M. Alexander Kerala University.	Studies on releaser pheromones of the musk shrew, *Suncus Murinus viridescene*.
45.	Dr. V.K.K. Prabhu Kerala University.	Exogenous insect hormones analogues in insects developmental biology.
46.	Dr. N.M. Antony Mar Ivanios College Trivandrum (Kerala University).	Studies on the metabolic disturbances caused by *Raillietina tetragona* infection in domestic fowls.
47.	Dr. T.N.A. Krishnan Loyola College, Madras.	Biotaxonomy of gall trips and pathological anatomy of thrips gall.
48.	Dr. T.J. Pandian A.P. Arts College, Madurai University.	Ecophysiological studies on culture of air-breathing fishes.
49.	Dr. V.R. Muthukkaruppan Madurai University.	Development of immune functions in fishes.

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1	2	3
Zoology (*Contd.*)		
50.	Prof. R. Nagabhushanam Marathwada University.	Comparative physiology of reproduction in some west coast mollusca and arthropods.
51.	Dr. V.P. Agarwal and Dr. S.V.S. Rana Meerut University.	Studies on the effect of some of the main air pollutants on the chemical make up of trachea, lungs, heart and brain of a few mammals.
52.	Dr. V.P. Agarwal and Dr. K.V. Sastry Meerut University.	Effect of some heavy metal pollution on the metabolism and nutritive value of a few teleost fishes.
53.	Prof. R. George Michael N.E. Hill University.	Biological productivity of aquatic ecosystem of the hill regions in North-Eastern Region.
54.	Dr. J.V. Rammana Rao Osmania University.	An enquiry into physiological responses of larvicidal fish to pollution and ground water chemical alterations as a means to thwart public health consequence of fish mortality.
55.	Prof. (Mrs.) Leela Mulherkar Poona University.	Biological evaluation of the new mould metabolites cytochalasan H.J. and related compounds.
56.	Dr. G.P. Sharma Panjab University.	Cytogenetics of the mosquitoes of India.
57.	Dr. (Mrs.) Kunda Sarin Rajasthan University.	Investigations on the effects of the toxicants (some organophosphorous insecticides) on Indian desert gerbils *Meriones hurrianae* (Jordon).
58.	Prof. A.S. Kapoor Rajasthan University.	Studies on the physiologic and systematic effects of cannabis in mammals.
59.	Prof. D.N. Kamat Shivaji University.	Studies on the diagnostic role of esterase in experimental nephrotic syndrom odema.
60.	Dr. Bhumitra Dev Udaipur University.	Studies on experimental renal faxicity

1	2	3
Zoology *(Contd.)*		
61.	Dr.S.B. Lal Udaipur University.	Studies on the male and female reproductive cycles and developmental processes of certain frugivorous and insectivorous Chiropteran Mammals
62.	Dr. D.R. Naik Utkal University.	Studies on the pituitary gland of reptiles.
63.	Prof. H. Swarup Vikram University.	Studies on fish growth and metabolism
64.	Dr. N.C. Sukul Visva-Bharati.	Studies on the ecology of soil microfauna and microflora with special emphasis on nematode and microanthropods of nematodes diseases of crop plants.
65.	Prof. A.B. Das Visva-Bharati.	Enzymatic mechanisms underlying the thermal accilimation of periplaneta Americana (Linn).
66.	Prof. T. Ramakrishna Indian Institute of Science, Bangalore.	Effect of Cnelating agents on the growth and enzyme systems of Rous Sagona virus.

13. SCIENCE RESEARCH COUNCIL

In April 1973, the Commission appointed a committee (9 members), to consider the question of providing funds for research in universities out of R & D funds and to advise the Commission in this respect. In September, a Standing Committee on Scientific Research and Development was constituted "to advise the Commission with regard to the development of scientific research, both fundamental and applied, in the universities and to help in the evaluation of suitable research projects and related matters." Early in 1974 the Standing Committee was renamed as the Science Research Council of the University Grants Commission.

Among the *important functions* of the Council are :

(i) to advise the Commission on all matters pertaining to the promotion, coordination and support of scientific research in universities,

(ii) to assist the Commission in evolving a dynamic policy for the support of scientific research in universities by individuals, groups and departments so as to strengthen the research base and promote the emergence of strong viable research centres in universities,

(iii) to liaise with other scientific agencies of the government and identify research and development areas of common interest and encourage and promote research in such areas,

(iv) identify areas which may have special significance academically or in national development and encourage research in such areas in universities,

(v) identify possibilities of inter-disciplinary, inter-departmental research and encourage the same,

(vi) to advise the Commission on any inter-university research facility that may be desirable to be set up,

(vii) to advice the Commission on promotion of exchange of scientists within the university system and/or with laboratories of agencies or with industry, and

(viii) to advise the Commission on the question of structural changes—administrative, managerial, financial—in the university system that may be necessary to enable the universities to effectively utilize research grants from the University Grants Commission or other Agencies.

The Council has identified areas of common interest to universities and the various National Laboratories of the CSIR so that collaborative programmes can be chalked out between them. Lately the Council has decided to make special effort to arrange for collaborative programmes in a few cities in which there are fairly-well-equipped university science departments and either National Laboratories or R & D Units of other government Agencies. Thus active discussions are now going on for collaborative programmes in Nuclear Physics between Bhabha Atomic Research Centre and several universities interested in work on the Variable Energy Cyclotron, in Laser research between BARC and Bombay University and others, in High Energy Nuclear Physics between Tata Institute of Fundamental Research and two universities in the North, in Space research between Indian Space Commission, the Indian Institute of Science and some other universities. It is expected that with these efforts the culture of collaborative programmes will spread rapidly with the realization that much more can be achieved inspite of the relatively meagre inputs that the country can afford to put into science research.

The Commission is concerned at the fact that much of the equipment universities have is often idle for lack of proper maintenance and repairs. The Council has undertaken to arrange for the equipment lying idle repaired through some of the National institutions such as the BARC, IITs and those under the CSIR. This work has already been started in the Bombay University and is being taken up for other places. At the same time the Council is evolving a pattern on which regional centres and central facilities in each university may be set up so that existing equipment may not only be maintained and repaired but new equipment can be designed and fabricated for use in teaching and research.

With the assistance of various *Science Panels* set up by the Commission the Council will also identify areas in basic and applied research, specially in inter-disciplinary field, in which a thrust should be made so that researchers may undertake work in those area in places where the required infrastructure exists.

14. RESEARCH PROJECTS IN ENGINEERING AND TECHNOLOGY SANCTIONED DURING FIFTH PLAN PERIOD

The Commissiom sanctioned the following 32 research projects during the Fifth Plan period.

S. No.	*Name of the Investigator/ Institute*	*Name of the Research Proposal and duration*
1.	Dr. M. N. Saxena Roorkee University.	Development of high strength al. base alloys
2.	Prof. T. R. Anantharaman Banaras Hindu University.	Metallography of rapidly solidified alloys
3.	Dr. K. Lingaiah Bangalore University.	Pitting characteristics and efficiency of Wildhaber-Novikov circulate arc gears
4.	Dr. S. R. Deb Jadavpur University Calcutta.	Design optimization and fabrication of new modified gear Robs for high productivity gear hobbing
5.	Dr. R. K. Chakrabarti Jadavpur University Calcutta.	General purpose finite element programme
6.	Prof. G. Ranganna Karnataka Regional Engineering College, Suratkal.	A study of Rainfall-Runoff relationship for west flowing rivers in Karnataka
7.	Dr. T. A. Hafiz Khan Engineering College, Anantapur. (Jawaharlal Nehru Technological University.)	Fibre reinforced concrete
8.	Dr. K. B. Agarwal Roorkee University.	Study for the use of an experimental soil as a construction material in earth dams and embankments
9.	Dr. Samir Chandra Lahiri Jadavpur University Calcutta.	Investigation of possible utilisation of various Indian derivatives as potential (a) antidiabetic (b) antiypertensive (c) antiinflammatory (d) antiviral agents
10.	Dr. Saroj Kanti Majumdar Jadavpur University Calcutta.	Development of process for Kanaraycin production

1	2	3
11.	Prof. R. N. Mukherjee Jadavpur University, Calcutta.	Diffusional transport in artificial biological membranes
12.	G. Madhusudhana Rao Andhra University, Waltair.	Fabrication of digital electronics instruments
13.	Dr. M. Ananda Mohan Andhra University College of Engineering, Waltair.	Determination of finite stability regions of non-linear dynamic systems
14.	Dr. T. K. Bandhopadhyaya Sh. G. S. Institute of Technology and Science, Indore (M. P.)	Dielectic investigation of plasma in crystals and thin films
15.	Prof. Dr. Ing. V. Joshi Indian Institute of Science Bangalore.	Study of nerve conduction and its analogus
16.	Prof. K. Parthasarathy Indian Institute of Science Bangalore.	Designed and development of solid state protective relays
17.	Prof. K. S. Prabhu Indian Institute of Science Bangalore.	Development of spectrum analyzer and swept frequency generator
18.	Dr. J. S. Chatterjee Jadavpur University Calcutta.	Integrated antenna systems
19.	Dr. A. K. Mandal Jadavpur University Calcutta.	Machine diagnons of heart disease using E.C.G. recordings
20.	Dr. V. S. Subba Rao Banaras Hindu University Varanasi.	Rural electric power supply by direct tapping from E.H.V. transmission lines
21.	Dr. Dipak Guha Roorkee University.	Remote sensing of objects by microwave signals
22.	Prof. S. Deb Jadavpur University Calcutta.	Investigation opto-electronic devices

1	2	3
23.	Prof. V. L. S. Bhima Sankaram Osmania University, Hyderabad.	Piezo electric prospecting for strategic minerals
24.	Dr. K. V. Ahmed Roorkee University.	Experimental investigation of the performance characteristics of thin films integrated devices & their applications
25.	Dr. Prabhakar S. Naidu Indian Institute of Science, Bangalore.	Meteorological time-series analysis
26.	Prof. B. S. N. Rau Indian Institute of Science, Bangalore.	Vaccum breakdown investigation
27.	Dr. Gopala Krishna Andhra University.	Probability Techniques-Valiron Wiman theory and applications, to differential equations in several complex variables
28.	Dr. K. Chandrashekhara Indian Institute of Science, Bangalore.	Two and three dimensional photoelastic analysis of composite media
29.	Dr. Ranbir Singh Banaras Hindu University.	Clay microstructure related to shear strengths
30.	Dr. D. L. Narasimha Rao Andhra University College of Engineering, Waltair.	Prestressed concrete hollow bridge girders subjected to combined torsion bending and shear
31.	Dr. Mahesh Verma Roorkee University.	Collection, compilation and publication of construction data for use in construction planning and management
32.	Prof. Hari Krishna Roorkee University.	System planning study for optimum management of water resources for irrigation in Hindon Kali Doab in Upper Basin of Ganga

15. RECENT MODIFICATIONS IN THE SCHEME OF PREPARATION OF UNIVERSITY LEVEL BOOKS BY INDIAN AUTHORS

The Scheme of Preparation of University Level Books by Indian Authors was initiated in the year 1970-71. The outlines and progress of the scheme have already been reported in April 1975 issue of the *Bulletin of Higher Education*. Subsequently, the Commission considered the question of

raising the value of fellowship awards under the scheme and agreed to make the following changes in the rules and regulations of the above scheme.

1. In case of fresh fellows to be appointed to assist in the book writing project, it would be desirable to appoint fellows with a Ph.D. degree, as far as possible.
2. The value of fellowship has also been raised from Rs. 500 per month to Rs. 600 per month with effect from 1st September, 1975 for those fellows who are already working under the scheme and who possess a Ph.D. degree. In case of other fellows working under the scheme as on 1-9-1975, the fellowship will be raised to Rs. 600 per month from the date they complete two years of satisfactory work under this scheme. This increase in the fellowship is also applicable to the retired teachers who are working whole-time in this scheme by availing of fellowship award themselves.
3. In the case of in-service teachers working as fellows under the scheme, the Commission has decided to protect their pay and regular allowances upto a maximum of Rs. 1,100 per month (previously the maximum limit was Rs. 750 p.m.)
4. The tenure of a book writing project would be two years, extendable by one year. No extension beyond three years (with a provision of fellowship) would be possible but the Commission may allow an extension up to a period of one year with a provision of contingent grant *only* (Rs. 2,000 per annum) in exceptional cases.
5. The Commission may also give to selected authors a lump sum honorarium of Rs. 10,000 for undertaking the writing of a book as approved by the Commission within a period of three years. This amount would include provision for any expenditure which the author has to incur in the preparation of the manuscript. A grant upto Rs. 5,000 may be made available in suitable instalments during the period of preparation of the manuscript and the remaining Rs. 5,000 be paid after the manuscript has been accepted by the Commission. Under this provision, the author would not receive any additional support for appointment of a fellow.
6. As the Ministries of Law and Health have also established cells for the publication of university level books in subjects connected with legal and medical education, with a view to avoid duplication of effort it has been decided that the UGC may not hereafter accept the proposals pertaining to law and medicine.

Under this scheme the Commission accepted 362 projects. But 53 of these projects could not be taken up by the authors for various reasons. Of the remaining projects manuscripts have been completed in 53 projects and 256 projects are in different stages of implementation.

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STATEMENT SHOWING THE POSITION OF THE PROJECTS ACCEPTED UNDER THE SCHEME AS ON 15TH JULY 1976

S. No.	*Subject*	*No. of projects initially accepted*	*No. of projects cancelled*	*No. of manu-scripts completed*	*No. of projects under implement-ation*
1	2	3	4	5	6
1.	Chemistry	31	2	7	22
2.	Bio-Chemistry	3	—	—	3
3.	Geophysics	2	—	1	1
4.	Physics	28	1	6	21
5.	Mathematics and Statistics	23	7	2	14
6.	Botany	26	2	7	17
7.	Zoology	26	4	3	19
8.	Marine Biology	3	1	2	—
9.	Geology	13	1	2	10
10.	Geography	4	—	1	3
11.	Anthropology	2	—	1	1
12.	Medicine	13	2	3	8
13.	Home Science	1	—	—	1
14.	Agriculture	6	1	—	5
15.	Engineering and Technology	56	13	3	40
16.	Town Planning and Architecture	2	1	1	—
17.	History and Archaeology	20	7	2	11
18.	Library Science	2	—	1	1
19.	Economics	16	2	1	13
20.	Commerce	3	1	—	2
21.	Political Science and Public Administration	15	3	1	11
22.	Law	4	1	1	2
23.	Sociology	12	1	—	11
24.	Education	10	—	2	8
25.	Philosophy	8	1	1	6
26.	Psychology	9	1	—	8
27.	Music and Fine Arts	3	—	1	2
28.	Advertising and Campaign Planning	1	—	—	1
29.	Book Publishing	1	—	—	1
30.	Languages, Literature and Linguistics	19	1	4	14
	Total	362	53	53	256

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PREPARATION OF UNIVERSITY LEVEL BOOKS BY INDIAN AUTHORS WITH FINANCIAL ASSISTANCE FROM UGC

A. PROJECTS COMPLETED UPTO 31.5.1976

S. No.	*Title of the Book*	*Author of the Book*
	Chemistry	
1.	Introduction to Quantum Mechanics of Chemical Systems	Prof. R. P. Rastogi and Dr. V. K. Srivastava Gorakhpur University.
2.	Principles of Organic Chemistry (B. Sc. level)	Prof. L. Ramachandra Rao Andhra University, Waltair.
3.	Introductory Quantum Chemistry	Dr. A. K. Chandra Indian Institute of Science, Bangalore.
4.	Flourine Chemistry	Prof. R. C. Paul Panjab University, Chandigarh.
5.	Molecular Spectroscopy Theory and Applications	Prof. R. D. Patel and Dr. R. P. Patel Sardar Patel University, Vallabh Vidyanagar.
6.	A Text Book of Inorganic Chemistry	Prof. P. B. Janardhan Madras University.
7.	Organic Mass Spectrometry	Prof. K. G. Dass National Chemical Laboratory, Poona.
	Physics	
1.	Elements of Quantum Mechanics	Dr. P. M. Mathews Madras University.
2.	X-Ray Studies of Lattics Defects	Prof . G. B. Mitra Indian Institute of Technology, Kharagpur.
3.	Introduction to Nuclear Physics (For B. Sc.)	Prof. M. R. Bhinday Nagpur University.
4.	Introduction to Electronics	Dr. K. J. M. Rao National Defence Academy, Poona.
5.	Postgraduate Course in Electronics	Prof. Rais Ahmed Aligarh Muslim University. (Now Director, NCERT).
6.	Introduction to Nuclear Theory	Dr. Y.R. Waghmare Indian Institute of Technology, Kanpur.

UNIVERSITY LEVEL BOOKS BY INDIAN AUTHORS

S. No.	*Title of the Book*	*Author of the Book*
Geophysics		
1.	Gravity and Magnetic Methods of Prospecting	Prof. B. Sundara Rama Rao Andhra University, Waltair.
Botany		
1.	South Indian Orchids	Prof. A. Abraham Kerala University.
2.	Biology, Genetics, Metabolism and Biological Revolution	Prof. S. Shamanna St. Joseph's College, Bangalore.
3.	Virus Diseases of Tropical Plants	Dr. S.P. Raychaudhury Indian Agricultural Research Institute, New Delhi.
4.	Physiology of Fungii	Dr. K.S. Bilgrami Bhagalpur University.
5.	Soil Micro Organisms in relation to Plant Growth	Dr. N.S. Subba Rao Indian Agricultural Research Institute, New Delhi.
6.	Flora of Gujarat State	Dr. G.L. Shah Sardar Patel University Vallabha Vidya Nagar.
7.	Modern Cytology-Chromosomes Present Status	Dr. (Smt.) Archana Sharma Calcutta University.
Zoology		
1.	A Text Book of Animal Physiology	Dr. R.N. Nagabhushanam Marathwada University.
2.	General Ecology of Animals	Prof. T.N. Anantakrishnan Loyola College, Madras.
3.	A Text Book of Marine Ecology	Dr. N. Balkrishnan Nair Cochin University, Cochin.
Geology		
1.	Industrial Rocks and Minerals of India	Prof. S. Deb (Retd.) Jadavpur University.
2.	Indian Mineral Economics	Prof. B.C. Roy (Retd.) Calcutta University.

UNIVERSITY LEVEL BOOKS BY INDIAN AUTHORS

S. No.	*Title of the Book*	*Author of the Book*
	Mathematics	
1.	Stochastic Processes	Dr. S.K. Srinivasan Indian Institute of Technology, Madras.
2.	Probability and Randum Processes	Dr. S.K. Srinivasan Indian Institute of Technology, Madras.
	Medicine	
1.	Manual of Clinical Methods	Professor P.S. Shankar Medical College, Gulbarga.
2.	Textbook of Social Medicine	Dr. B.S. Rao JN Medical College, Belgaum.
3.	A Book on Alcohal and other Drug Addictions—Smoking and Sex-permissiveness	Prof. K.S. Sanjivi Madras Medical College, Madras.
	Geography	
1.	Regional Planning with particular Reference to India	Prof. E. Ahmed Sri Venkateswara University, Tirupati.
	Anthropology	
1.	Tribal Cultures of India	Dr. L.P. Vidyarathi Ranchi University.
	Marine Biology	
1.	The Indian Ocean	Dr. C.T. Sammuel Cochin University.
2.	Prawn Fisheries of India	Dr. C.V. Kurien Cochin University.
	History	
1.	A Book on Archaeology (Stone Stage India)	Prof. H.D. Sankalia Poona University.
2.	Tulsi, Sur, Evam Dadu mein samaj aur Sanskriti (in Hindi)	Smt. Savitri Chandra Aligarh Muslim University.

UNIVERSITY LEVEL BOOKS BY INDIAN AUTHORS

S. No.	*Title of the Book*	*Author of the Book*
	Languages, Literature and Linguistics	
1.	History of European Asthetics	Dr. R.R. Bhatnagar Saugar University.
2.	History of Prakrit Literature	Prof. D.M. Hatwalne Chatrapati Shivaji College, Satara.
3.	Russian Text Book for Students and Ph.D. Scholars of Indian Universities learning Russian with a Teacher	Prof. G. Mukherjee Delhi University.
4.	History of Malayalam Literature	Prof. N.E. Viswanath Iyer Cochin University.
	Education	
1.	Financing of Indian Education (in Hindi)	Prof. A.N. Misra Saugar University.
2.	Problems of Higher Education of India	Shri K.L. Joshi Gokhale Institute of Politics and Economics, Poona.
	Library Science	
1.	University Libraries in India	Shri S.N. Srivastava Rajasthan University.
	Economics	
1.	Rural Economy of India	Dr. D. P. Sharma Sri Venkateswara University, Tirupati.
	Political Science/Public Administration	
1.	Public Relations and Administration in the Indian Context	Dr. S.P. Aiyar Bombay University.
	Law	
1.	The Constitutional Law of India	Prof. H.C. Dholkia M.S. University, Baroda.
	Philosophy	
1.	A Critical Survey of Modern Western Philosophy	Prof. S.S. Barlingay Poona University.

UNIVERSITY LEVEL BOOKS BY INDIAN AUTHORS

S. No.	*Title of the Book*	*Author of the Book*
	Architecture	
1.	Contemporary Architecture of Bombay—A Design Approach	Prof. A.K. Chatterjee Sir J.J. College of Architecture, Bombay.
	Fine Arts	
1.	Kishangarh School of Painting	Dr. Faiyaz Ali Khan Rajasthan University.
	Engineering and Technology	
1.	Structural Design and Drawing	Dr. D. Krishnamurthy M.A. College of Technology, Bhopal.
2.	Concrete Dams	Dr. R.S. Varshney Roorkee University.
3.	A Comprehensive Review of Cavitation	Prof. K. Seetharamiah (Retd.) Indian Institute of Science, Bangalore.

B. PROJECTS WHICH ARE IN PROGRESS

S. No.	*Name of the Supervisor*	*Title of the Book*
1	2	3
	Chemistry	
1.	Prof. N.K. Bose Calcutta University.	Mathematical Methods in Chemical Engineering
2.	Dr. (Mrs.) K.K. Rohtagi Mukherjee Jadavpur University.	Fundamentals of Photo-Chemistry
3.	Dr. R.C. Kapoor Jodhpur University.	Principles of Polarography
4.	Prof. V.R. Krishnan S.V. University, Tirupati.	Physical Chemistry—Probiems Approach
5.	Dr. S. S. Chhibber Delhi University.	Reactions and Reagents in Organic Chemistry
6.	Dr. S.N. Banerjee Regional Engineering College Durgapur.	An Introduction to Science of Corrosion and its Inhibition.
7.	Prof. S.R. Patel Sardar Patel University Vallabh Vidyanagar.	Organic Reaction Mechanisms.

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1	2	3
Chemistry (*Contd.*)		
8.	Prof. G. Gopalarao Andhra University Waltair, Waltair.	Principles and Practice of Volumetric Analysis in Volume I
9.	Prof. C.C. Patel and Dr. D.N. Satyanarayana Indian Institute of Science, Bangalore.	Electronic and Vibrational Spectroscopy
10.	Prof. L.K. Ramachandran Osmania University, Hyderabad.	Chemical Modification of Peptides and Proteins (Monograph)
11.	Prof. R.C. Mehrotra Rajasthan University (Now at Delhi University).	The Chemistry of Metal Oxygen Carbon Compounds
12.	Prof. M.N. Sastry Andhra University.	An Introduction to Nuclear Science
13.	Dr. H.H. Mathur Indian Institute of Technology, Bombay.	Spectroscopy of Organic Molecules
14.	Mrs. T. Jacob Lady Irwin College, New Delhi.	Applied Chemistry for Home Science and Allied Sciences
15.	Sri Birendra Nath Chakraborty Asansol Girls College, Asansol.	Industrial Chemistry
16.	Dr. B.N. Ghosh (Retd.) Calcutta University.	Immuno Chemistry
17.	Dr. V. Krishnan Indian Institute of Science Bangalore.	Electronic Structure in Inorganic Complexes
18.	Prof. M.S. Bhatnagar (Retd.) Indian Institute of Technology Kanpur.	High Polymer Technology, Plastics and Electronics
19.	Prof. D. Banerjee Calcutta University.	Fundamental Principles of Inorganic Chemistry
20.	Dr. S.N. Tandon Roorkee University.	Principles of Nuclear and Allied Chemistry

1	2	3
Chemistry (*Contd.*)		
21.	Prof. H.C. Gaur Delhi University.	Molten Salts
22.	Dr. D. Ramaswamy Dr. V.V. Ramanujan and Prof. G. Aravamudan Central Leather Research Institute, Madras.	Principles of Coordination Chemistry: Experimental Approach
Biochemistry		
1.	Dr. C.V. Ramakrishnan Department of Biochemistry M.S. University, Baroda.	Laboratory Techniques in Biochemistry and Nutrition
2.	Dr. R. Rajyalakshimi Department of Biochemistry M.S. University, Baroda.	Nutrition (P.G. Level)
3.	Dr. P.J. Vithiayathil Dr. S. Mahadevan and Dr. S.S. Kumar Indian Institute of Science, Bangalore.	Experiments and Research Techniques in General Biochemistry (Laboratory manual for M.Sc. students)
Geophysics		
1.	Prof. V.L.S. Bhimasankaram Centre of Exploration Geophysics, Osmania University, Hyderabad.	Electrical Methods of Geophysical Prospecting
Physics		
1.	Prof. R.S. Krishnan Kerala University.	Photoelasticity of Crystals
2.	Dr. P.K. Adhitya B.N. Chakravarty University, Kuruksetra.	1. A Text Book on Applied Physics for Engineering Students 2. Advanced Experiments in Physics
3.	Prof. L. R. Govil Banaras Hindu University.	Applied Thermodynamics
4.	Dr. D.C. Sarkar Kalyani University.	Fundamentals of Radio Communications
5.	Prof. S.N. Ghosh Allahabad University.	Electromagnetic Wave Propagation
6.	Dr. S.V. Subramaniyam S.V. University, Tirupati.	Experiments in Electronics and Acoustics

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Physics (*Contd.*)		
7.	Dr. H.S. Hans and Dr. R.K. Bansal Panjab University, Chandigarh.	Nuclear Physics—Experimental and Theoretical
8.	Dr. S.K. Joshi Roorkee University.	Solid State Physics (Theory of Solids)
9.	Prof. N. Nath B. N. Chakravarti University.	General Nuclear Physics
10.	Dr. P.K. Katti Instrument Research and Development Establishment, Dehradun.	Geometrical Optics and Optical Instruments
11.	Dr. R. Hardya Nath Instruments Research and Development Establishment, Dehradun.	Optical Workshop Technology
12.	Prof. R.N. Singh Banaras Hindu University.	Electromagnetic Fields and Waves
13.	Prof. R.G. Takwale Poona University.	Introduction to the Classical Mechanics
14.	Shri B.N. Basu Jadavpur University.	Introduction to Astrophysics
15.	Dr. B. Chakravarty Jadavpur University.	Principles of Plasma Mechanics
16.	Dr. J.S. Verma Birla Institute of Technology and Science, Pilani.	Electromagnetic Theory
17.	Dr. Devendra Kumar Rai Banaras Hindu University.	Atomic Spectra and Atomic Structure
18.	Dr. S.P. Saxena Poona University, Poona	Physics and Solids
19.	Dr. P. Das Gupta Kalyani University.	Electrodynamics (for M.Sc. students)
20.	Dr. V.K. Thankappan B.N. Chakravarti University.	Quantum Mechanics
21.	Dr. Suresh Chandra Ravi Shankar University, Raipur.	Super-ionic Solids
Mathematics and Statistics		
1.	Dr. D.K. Sinha Jadavpur University, Calcutta.	Mathematical Theory of Electricity and Magnetism

1	2	3
Mathematics and Statistics (*Contd.*)		
2.	Dr. R. Rama Kumar Kerala University, Trivandrum.	Technical Demography (M.Sc. level)
3.	Prof. R.P. Aggarwal Lucknow University.	Generalised Hypergeometric Series and its applications to the Theory of Combinatory Analysis and Partition Theory.
4.	Dr. V. Krishnamurthy Birla Institute of Technology and Science, Pilani.	Finite Topologies
5.	Professor K.S. Amur Karnatak University, Dharwar.	An Introduction to Modern Differential Geometry
6.	Dr. S.G. Deo Bombay University.	Ordinary Differential Equations and Stability Theory
7.	Dr. B.R. Bhatt Karnatak University, Dharwar.	Probability Theory
8.	Prof. P.C. Jain Indian Institute of Technology, Bombay.	Advanced Mathematics for Engineeers and Scientists (Numerical Analysis)
9.	Dr. S.K. Bose Lucknow University.	Integral Function
10.	Dr. J.V. Deshpande Bombay University.	General Topology for M.A./M.Sc. level
11.	Prof. K.N. Srivastava College of Technology, Bhopal.	Mathematical Methods
12.	Dr. O.S. Srivastava Gorakhpur University.	Ballastics and Operational Research
13.	Dr. S. M. Alladin Osmania University Hyderabad.	Applied Mathematics for Physicists and Astronomers
14.	Dr. B. V. Limaye Bombay University.	Functional Analysis
Botany		
1.	Prof. J.J. Chinoy Gujarat University, Ahmedabad.	Role of Ascorbic Acid in Plant Metabolism, Growth and Flowering
2.	Dr. R.N. Singh Banaras Hindu University.	An Introduction to Algae
3.	Prof. K. Ramakrishnan Agricultural College and Research Institute, Coimbatore.	Plant Diseases

1	2	3
Botany (*Contd.*)		
4.	Dr. G.M. Reddy Osmania University, Hyderabad.	Introduction to Plant Genetics
5.	Dr. S.N. Dixit Gorakhpur University.	An Introduction to Taxonomy of Angiosperms
6.	Dr. J. Jayaraman Madurai University.	Programmed Text on Biological Chemistry
7.	Prof. T.V. Desikachari Madras University.	A Text Book on Algae
8.	Prof. C.V. Subramanian Madras University.	A Textbook on Fungi
9.	Dr. H.K. Baruah Gauhati University.	Text Book of Plant Pathology
10.	Prof. J.J. Shah, Sardar Patel University Vallabh Vidyanagar.	Anatomy of some Economic Plants of India
11.	Prof. K.K. Nanda Department of Botany, Panjab University, Chandigarh.	A Monograph of Vegetative Reproduction of Plants
12.	Prof. K.S. Thind Panjab University, Chandigarh.	Physiological Studies in Indian Fungi
13.	Prof. S.K. Pillai Birla Institute of Technology and Science, Pilani.	Developmental Plant Anatomy
14.	Prof. V.S. Sundaralingam Pachaiyappa's College, Madras.	Morphology of Marine Algae and Morphology of Lichens
15.	Dr. Virendira Kumar Delhi College, Delhi.	To prepare a chromosome Atlas of Indian Plants
16.	Prof. A. Mahadevan Madurai University.	Growth Regulations in Plant Pathology
17.	Prof. P.N. Srivastava Jawaharlal Nehru University, New Delhi.	Statistical Methods in Biology and Medicine
Zoology		
1.	Dr. S.M. Das Kashmir University, Srinagar. (Now at Lucknow University)	Fundamentals of Ichthyology
2.	Prof. K.K. Nayar Kerala University, Trivandrum.	Textbook of Comparative Physiology

1	2	3
Zoology (Contd.)		
3.	Dr. C.L. Mahajan Rajasthan University, Jaipur.	The Biology of Fishes (with special reference to Fishes of the Indian Subcontinent)
4.	Dr. S.N. Prasad Allahabad University.	A Text book of Entomology for Indian Students : Life of Vertebrates
5.	Prof. S. Krishnaswamy Madurai University.	Biology of Indian Seas
6.	Dr. Karumuri S. Swami Sri Venkateswara University, Tirupati.	A Physiology Book ; Competence in Cell Biology
7.	Dr. B. Samanta Rai Utkal University, Bhubaneswar.	Plant Physiology
8.	Dr. S.C. Rastogi Birla Institute of Technology and Science, Pilani.	Essentials of Animal Physiology
9.	Dr. Kenoth Govinden Adiyodi Calicut University.	Endocrinology of Arthropods
10.	Dr. S.C. Saxena Rajasthan University.	The Biology of Insects
11.	Dr. K.M. Alexander Kerala University.	An Introduction to Ethology
12.	Dr. R.K. Ganba Hindu College, Delhi.	Introductory Histology
13.	Dr. G. Madan Mohan Rao Sir Theagaraya College, Madras.	Comparative and General Animal Physiology
14.	Dr. S.C. Goel Poona University.	Principles of Animal Embryology
15.	Dr. S.A.T. Venkatachary Yaswant Mahavidyalaya, Nanded.	Comparative Annual Physiology
16.	Mrs. P. Michael Lady Doak College, Madurai.	Ecology Work Manual
17.	Dr. G.T. Tonapi Poona University.	Fresh Water Animals of India

1	2	3
Zoology (*Cont.d.*)		
18.	Dr. R. Krishnamurthy Marathwada University.	An Introduction to Protozone Parasites
19.	Dr. C.V. Kurian Cochin University.	Indian Ascidians
Geology		
1.	Dr. M.N. Vishwanathiah Mysore University.	Introduction to Earth Science and/or Introduction to Structural Geology.
2.	Prof. O.P. Verma Indian School of Mines, Dhanbad.	Economic Geology of Indian Mineral Deposits (English)
3.	Dr. Supriya Roy Jadavpur University, Calcutta.	Maganese Formations
4.	Dr. R.C. Sinha Patna University.	Geochemistry
5.	Dr. S.N. Mitra Jadavpur University.	Chemistry and Geochemistry of Mercury
6.	Dr. S. Subba Rao Vikram University.	The Deccan Traps (in consultation with Prof. W.D. West)
7.	Dr. S.V.L.N. Rao Indian Institute of Technology, Khargpur.	Map Analysis: Recent Research in Pattern Recognition Techniques
8.	Dr. B.P. Guildyal G.B. Pant University of Agriculture and Technology, Pant Nagar.	Soil Physics
9.	Dr. V. Asthana Jawaharlal Nehru University New Delhi.	Geology of Oceans
10.	Prof. M.J. Chakrapani Naidu S.V. University, Tirupati.	Engineering Geology—Geology of Dams with special reference to India
Geography		
1.	Prof. V. Subramanyan Saugar University.	The Land Forms of India—A Text Book of Geomorphology
2.	Dr. R.L. Singh Banaras Hindu University.	The Cultural Geography of India—its People, Economy and Society

UNIVERSITY LEVEL BOOKS BY INDIAN AUTHORS

1	2	3
Geography (*Contd.*)		
3.	Prof. Moonis Raza Jawaharlal Nehru University New Delhi.	Geography of the Kashmir Valley
Anthropology		
1.	Dr. H.K. Kumbnani and Dr. M.K. Bhasin Delhi University.	Human Cytogenetics for Studies
Home Science		
1.	Dr. (Mrs.) Rajammal Devdas Avinashilingam Home Science College, Coimbatore.	A Text book on Child Development (B.Sc. level)
Medicine		
1.	Dr. S.M. Marwah Institute of Medical Sciences, Banaras Hindu University.	A Text book of Practice of Social Medicine for Teachers, Practitioners and Students
2.	Dr. Gur Mohan Singh Institute of Medical Sciences, Banaras Hindu University.	Dermatology (Ayurvedic Concepts in relation to Modern Medicines)
3.	Prof. Alauddin Ahmad Haryana Agricultural University, Hissar.	Pharmacologic Principles in Veterinary Practice
4.	Prof. J.M. Pahwa Gandhi Eye Hospital, Aligarh (U.P.)	Retinal Detachment and its Modern Treatment
5.	Dr. R.M. Sharma Haryana Agricultural University, Hissar.	Preventive Veterinary Medicines
6.	M.N. Jindal B. J. Medical College, Ahmedabad.	Pharmacology
7.	Dr. B.M. Mittal Birla Institute of Technology and Science, Pilani.	Pharmaceutical Formulation
8.	Dr. S.K. Mishra Institute of Medical Sciences, Banaras Hindu University.	Prescription Guide for Medical Graduates

UNIVERSITY LEVEL BOOKS BY INDIAN AUTHORS

1	2	3
Agriculture		
1.	Dr. Sant Singh Banaras Hindu University.	A book in Hindi on Soil Science
2.	Dr. M.K. Moolani Haryana Agricultural University Hissar.	A book on Weed Control
3.	Dr. R.K. Grover Haryana Agricultural University.	Diseases of Vegetable Crops in India
4.	Dr. Thomas M. Verghese Haryana Agricultural University.	Reproductive Morphology of Angiosperms
5.	Dr. O.P. Garg Haryana Agricultural University, Hissar	An Introduction to Plant Physiology
Engineering and Technology		
1.	Dr. P.S. Lele Deptt. of Chemical Engg., IIT, Delhi.	Automatic Control, Process Dynamics and Instrumentation for Chemical Engineers
2.	Prof. K. Chandrasekharan AC College of Technology, Madras-25.	The Stirred Cell (Monograph based on literature and investigations)
3.	Prof. B.N. Garudachar Osmania University, Hyderabad-7.	Electrical Circuit Analysis
4.	Prof. Manohar Lal Roorkee University.	Introduction to Modern Control Systems
5.	Prof. M.S. Misra U.P. Agricultural University, Pantnagar (Nainital).	Irrigation Engineering Practice and Design
6.	Prof. M.M. Dandekar M.R. Engineering College, Jaipur.	Water Power Engineering
7.	Prof. P. Krishnamachar Maulana Azad College of Technology, Bhopal-7.	Hydraulic Laboratory Manual
8.	Prof. K. Seetharamiah Indian Institute of Science, Bangalore.	Flow Measurement

1	2	3
Engineering and Technology (*Contd.*)		
9.	Prof. S.K. Sharma U.P. Agricultural University Pantnagar (Nainital).	Mathematical Methods in Science and Engineering
10.	Dr. (Mrs.) R. Chatterjee Indian Institute of Technology, Bangalore.	Microwave Engineering for Undergraduate and Postgraduate Students
11.	Dr. A.K. Kamal Roorkee University.	Fundamentals of Modern Electronics
12.	Dr. B. Hanmanth Rao College of Engineering, Osmania University, Hyderabad-7.	Power System Analysis with emphasis on Computer Application to Power-System Studies
13.	Prof. B. Ravindranath Malviya Regional Engineering College, Jaipur-4.	Protective Relays and Circuit Breakers
14.	Dr. S.P. Sharma Roorkee University.	Fuels and Combustion
15.	Prof. D. Kumar Malviya Regional Engineering College, Jaipur.	Aluminium—The Science and Technology of Metal and Alloys
16.	Prof. B.K. Ramaiah P. Purushothamraj and H.V. Krishnamurty Visvesvaraya College of Engineering, Bangalore.	A Hand Book of Stress Distribution and Deformation in Soils
18.	Prof. Suresh Chander U.P. Agricultural University Pantnagar (Nainital).	A Text book on Electrical Engineering in five parts in Hindi for all branches of Engineering (Degree Courses)
18.	Prof. M.N. Saxena Roorkee University.	Corrosion Engineering
19.	Dr. M.K. Achuthan Indian Institute of Technology, Madras.	A Text Book on Transistor Circuits
20.	Prof. R.N. Mukherjee and Dr. A.K. Mitra Jadavpur University.	Chemical Plant Design and Project Engineering

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Engineering and Technology (*Contd.*)		
21.	Shri P.C. Mukherjee Indian Institute of Technology, Bombay.	Theoretical Fundmentals of Casting Technology
22.	Dr. V.C. Venkatesh and Dr. H. Chandrasekharan Indian Institute of Technology, Madras.	Experimental Methods in Metal Processing
24.	Prof. S.P. Patra Dr. S.K. Basu and Shri S. Chaudhury Jadavpur University.	Protection of Electrical Power System
24.	Prof. T.S. Madhava Rao Roorkee University.	Power System Protection
25.	Prof. T.R. Sarkari Indian Institute of Technology, Bombay.	Theory of Petrol and Diesel Engines.
26.	Shri N.V. Arunachalan College of Engineering, Guindy, Madras.	Graphic Statistics, Vol. II
27.	Dr. A. Shanmugasundaram and Shri G. Gangadharan, P.S.G. College of Technology, Coimbatore.	Electrical Machines Design Data Book
28.	Dr. U.R.K. Rao Indian Institute of Technology, New Delhi.	Engineering Manufacturing Inspection & Estimation
29.	Dr. C.R. Nanda Regional Engineering College, Rourkela.	The Non-ferrous Extraction Metallurgy
30.	Dr. K.L. Kumar Indian Institute of Technology, New Delhi.	Advanced Mechanics
31.	Shri S. Nandeeswaraiya College of Military Engineering, Poona.	Theory of Machines and Machine Design

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Engineering and Technology (*Contd.*)		
32.	Prof. L.L. Bhirud S.P. College of Engineering, Bombay.	Computer Programming for Civil Engineers
33.	Shri S. Ramani Indian Institute of Technology, Madras.	Fortran Programming "Programmed Instruction"
34.	Prof. M.S. Abdul Kadir Engineering College, Trichur.	Engineering Aspects of Electromagnetic Field Theory.
35.	Shri K.P. Mamooty Engineering College, Trichur.	1. Basic Electrical Engineering 2. Instrumentation for Research and Industry.
36.	Prof. B.V. Ramaswamy College of Military Engineering, Poona.	1. Prestressed Concrete Theory and Design 2. Reinforced Concrete Theory and Design 3. Structural Steel S. Design.
37.	Shri S.D. Synghal M.M.M Engineering College, Gorakhpur.	Materials and Structures Vol. (II)
38.	Dr. S.R. Jawalekar Indian Institute of Technology, Bombay.	Vaccum Technology
39.	Dr. T.K. Bose Indian Institute of Technology, Madras.	High Temperature Gasdynamics
40.	Prof. B.D. Sonede Indian Institute of Science, Bangalore.	Monographs on Solid State Electronics Instrumentation—Vol. III-VI.
History		
1.	Dr. Lallanji Gopal Banaras Hindu University.	A History of Ancient Indian Political Ideas with special reference to Social and Religious Background.
2.	Prof. S.K. Saraswati Calcutta University.	A Book on Indian Art (Bharat Shilpkatha with sub title story of Indian Arts)
3.	Prof. Fauja Singh Punjabi University, Patiala.	History of Panjab or part thereof
4.	Professor K.D. Bajpai Saugar University.	The Gupta Sculpture

1	2	3
History (*Contd.*)		
5.	Shri S.C. Bhattacharya Allahabad University.	Development of Historiography in Ancient India
6.	Shri L.K. Tripathi Banaras Hindu University.	Ancient Indian Architecture (in English)
7.	Prof. Satish Chandra Jawaharlal Nehru University.	Social and Cultural Conditions in Northern India during the 18th Century
8.	Dr. K.M. Patra Utkal University, Bhubaneswar.	Orissa under the British Rule
9.	Shri C. Soma Sundra Rao Andhra University, Waltair	A Work on History of Andhra upto 1336 A.D.
10.	Dr. A.A. Sundara Karnatak University.	Rock Painting and Bruisings in North Karnatak
11.	Dr. P.L. Mehra Panjab University, Chandigarh.	A Dictionary of Indian History in the British period (1757-1947)
Library Science		
1.	Shri C.D. Sharma Banaras Hindu University.	The use of Libraries by Readers of Different Categories
Economics and Commerce		
1.	Prof. Gautam Mathur Osmania University, Hyderabad.*	Theory of Capital and Industrial Distribution in a Mixed Economy
2.	Dr. A. Ramaswamy Annamalai University, Annamalainagar.	Agricultural Economics
3.	Dr. V.B. Singh Lucknow University.	Indian Labour Economics
4.	Prof. N.N. Chatterjee Indian Institute of Management Studies Calcutta.	Industrial Relations and Indian Economy
5.	Shri Mahesh Chand Allahabad University.	Regional Planning in India
6.	Prof. Mohd. Mohsin Calicut University.	Corporation Finance, its Principles and Policies

* Now Vice-chancellor, Utkal University, Bhubaneswar.

1	2	3
Economics (*Contd.*)		
7.	Dr. V.B. Singh Lucknow University.	Indian Economic Problems (after Independence)
8.	Dr. Shailendra Singh Lucknow University.	Public Economics with Major Emphasis on Public Finance
9.	Dr. Samauddin Aligarh Muslim University.	Co-operative Sector in India after Independence
10.	Prof. Dool Singh B.N. Chakravarty University.	Management Science and Art of Entrepreneurship
11.	Dr. V.R. Panchmukhi Bombay University.	International Economics
12.	Dr. V.N. Kothari M.S. University, Baroda.	Micro Economics
13.	Dr. A.C. Angish Jodhpur University.	Some Problems of Public Finance in an under-developed Economy—A Case Study of India
14.	Dr. H.K. Manmohan Singh Panjabi University, Patiala.	Economics of Socialism
15.	Dr. P.H. Prasad A.N. Institute of Social Studies, Patna.	Theory of Growth and Planning
Political Science and Public Administration		
1.	Prof. M. Muttalib Osmania University, Hyderabad.	Theory of Local Government
2.	Prof. Iqbal Narain Rajasthan University, Jaipur.	Indian Government and Politics
3.	Prof. A. Avasthi Saugar University.	Indian Administration
4.	Prof. S.P. Verma Rajasthan University, Jaipur.	Government and Politics in South Asia
5.	Prof. Ziauddin Khan Rajasthan University, Jaipur.	Comparative Public Administration in English
6.	Prof. V.M. Sirsikar Poona University.	Indian Political Parties—A Comparative Analysis

1	2	3
Political Science and Public Administration—(*Contd.*)		
7.	Prof. K.V. Rao Banaras Hindu University.	Government and Politics of Indian States
8.	Dr. S.N. Ray North Bengal University.	A Book on Comparative Government
9.	Dr. V.K. Sukumaran Nayar Kerala University, Trivandrum.	Indian Nationalism
10.	Dr. Ramesh K. Arora Rajasthan University, Jaipur.	Development Administration : Conceptional and Emperial Premises
11.	Shri K. D. Trivedi Rajasthan University, Jaipur.	Administrative and Organisation Theories
Sociology		
1.	Dr. P.K.B. Nayar Kerala University, Trivandrum.	A Textbook of Development Administration (Interdisciplinary Approach)
2.	Dr. S.C. Dube Saugar University.	Sociology (Honours Level)
3.	Dr. S.K. Lal Jodhpur University.	Social Thought
4.	Prof. Y.B. Damle Poona University.	Caste, Religion and Politics
5.	Prof. C. Lakshmanna Osmania University, Hyderabad.	Applied Sociology
6.	Rev. Dr. J. Murickan S.J. Trivandrum.	Society and the Physically Handicapped
7.	Dr. N.K. Singhi Rajasthan University, Jaipur.	Recent Trends in Sociological Theory (in English)
8.	Dr. S.V. Mehta Directorate of Adult Education, New Delhi.	Study of Rural Sociology in India
9.	Prof. B.R. Chauhan Meerut University.	Sociology of Rural Life in India

1	2	3
Sociology (*Contd.*)		
10.	Dr. L.S. Kudchedkar Tata Institute of Social Sciences Bombay.	Aspects of Personnel Management to Industrial Relations
11.	Dr. (Smt.) Sarojini Shintri Dr. M.S. Sunkapur and Dr. M.M. Kulbargi Karnatak University.	Women Saints of Karnataka
Law		
1.	Dr. S. Dayal Panjab University, Chandigarh.	Jurisprudence
2.	Dr. R.C. Hingorani Patna University.	A Book on International Law
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16. LEAVE ON ACADEMIC GROUNDS TO JUNIOR AND SENIOR RESEARCH FELLOWS DURING TENURE OF UGC FELLOWSHIP

There is a provision in the rules for award of Junior and Senior Research Fellowships in Sciences and Humanities including Social Sciences that the fellows may, in special cases, be allowed by the Commission leave without fellowship on academic ground for a period not exceeding three months during the tenure of award on the recommendations of the supervisor and the institutions concerned. The period of leave without fellowship will count towards the fellowship tenure.

The Commission has now decided that Junior and Senior Research Fellows working on the various programmes of research fellowships supported by UGC may be granted leave up to one academic year during the entire tenure of the Fellowship for purposes of accepting teaching assignments on a temporary basis provided the post accepted by them is in the same department or in an institution located in the same city and would therefore enable the fellow to continue with his research work also. This period would be counted towards the normal tenure of the Fellowship.

17. BOOK BANK SCHEME—EXTENSION TO ALL COLLEGES LISTED UNDER SECTION 2(f) OF THE UGC ACT

The details of the Book Bank Scheme were published under Item 13 in this *Bulletin* dated April 1975. The Commission has since agreed that the scheme of Book Bank may be extended to all colleges including professional colleges listed under Section 2(f) of the UGC Act. The Commission has further agreed that all colleges having an enrolment of atleast 100 students in the degree classes would be eligible for assistance under this scheme. The assistance would be provided on the following basis for the establishment of Book Bank Scheme in colleges.

Enrolment	*Allocation*	*UGC's contribution*
	Rs.	
(i) A college with a student enrolment of 100 or above but less than 250.	8,000	75% of the allocation
(ii) A college with a student enrolment of 250 or above but less than 500.	10,000	75% of the allocation
(iii) A college with a student enrolment of 500 or above but less than 1000.	15,000	75% of the allocation
(iv) A college with a student enrolment of 1000 or above but less than 1500.	20,000	75% of the allocation
(v) A college with a student enrolment of 1500 or above but less than 2000.	25,000	75% of the allocation
(vi) A college with a student enrolment of 2000 or above.	30,000	75% of the allocation

The Commission has further decided that for fresh proposals for establishing Book Banks in the year 1976-77, the enrolment in the degree and post-graduate degree courses as on 1-11-1975 would be taken into account. It has further been decided that such of the colleges which have fully utilised assistance already made available under the Book Bank scheme would be provided a further assistance upto 50% of the grant earlier approved by the Commission for establishing Book Banks. In such cases the Commission's assistance for the scheme would be determined on the same basis as originally agreed to including enrolment. Only the scale of assistance would be reduced to 50% of the grant earlier sanctioned. It has also been clarified by the Commission that for deciding the enrolment of students the number of part-time students enrolled in the colleges may not be taken into account in respect of this scheme. It has also been decided by the Commission that no part of the book grant may be utilised for the purchase of book-shelves, furniture etc. Any expenditure incurred towards these items will be met by the college concerned from its own fund.

18. SUPPLY OF ESSENTIAL COMMODITIES TO STUDENTS' HOSTELS IN UNIVERSITY OR DEGREE COLLEGES

At the initiative of the Ministry of Education, Department of Food, Ministry of Agriculture issued a circular letter to all the State Governments in June 1974 asking them to arrange supply of food-grains at controlled rates at the rate of 80 kg. per student per year. This position was communicated to all State Education Secretaries by the Ministry of Education and to the Vice-Chancellors of universities by the UGC. It is hoped that in pursuance of these instructions students' hostels in all the university or degree colleges are receiving food-grains at controlled rates through the public distribution system.

In April 1975 a scheme was formulated in consultation with the Department of Cooperation for the supply of essential consumer articles to students hostels in universities and degree colleges through consumer cooperative institutions in 43 selected cities in the country. This was circulated to all concerned including universities. Under this scheme the consumer cooperative institutions have undertaken to supply all essential commodities to the student hostels on preferential or concessional basis on terms of payment to be settled mutually.

The items to be supplied would include articles of groceries, toiletries, hosiery goods, books and stationery and other consumer articles essential to the student community like cycle tyres and tubes, dry battery cells etc. This would bring about substantial reduction in the mess bills of the students and at the same time would ensure supply of wholesome unadulterated foodstuffs to them.

Following the 20-Point Economic Programme announced by the Prime Minister, the scheme has been expanded to cover all university or degree college hostels and approved lodging houses. The Department of Cooperation has now offered to give grants to cooperative stores in universities or consumer cooperatives as margin money. A provision of Rs. 2 crores has been made for strengthening this programme. Necessary details in this regard have already been sent to all concerned.

It is urged that the scheme may be implemented expeditiously and in right earnest in order to have an impact on the student community. It is also important that the Government of India is kept informed of the progress made in this regard. The State Education Secretaries have already been requested to send monthly progress report on the prescribed proforma so as to reach the Ministry of Education in the 1st week of every month. The hostel authorities may be advised to cooperate with the State Education Secretaries and cooperative agencies and institutions and send regular reports to the State Education Departments. It will be helpful if copies of these reports are also endorsed to the Ministry of Education.

19. SUGGESTIONS OF THE UGC-NCC COMMITTEE ON THE RECOMMENDATIONS OF THE NCC EVALUATION COMMITTEE, GOVERNMENT OF INDIA

The University Grants Commission appointed a Committee to study the recommendations made by the Evaluation Committee set up by the Government of India, on the working of the NCC. The suggestions of the NCC Committee as approved by the Commission are published below:

Attendance at an NCC activity

The NCC Cadets should be enabled to derive the benefits for purposes of academic attendance, in the same manner as it is available for students participating in the NSS, programmes and sports etc. Any approved NCC activity which makes it necessary for the cadets to miss their academic class work should be treated as valid for purposes of academic attendance. Such concession should however, not exceed, say more than 6 per cent of the minimum attendance required as per university regulations.

Universities having Military Studies Departments

It would be more appropriate to designate the existing military studies departments in the universities as departments of defence studies and associate in their teaching and field programmes, personnel both active and retired, from the Defence services. Defence studies or military studies should not be considered as an easy elective and alternatives to other courses. Accordingly, the contents to be included should be of university level and for this purpose a model syllabus could be laid down with the help of a Committee and the National Defence College. The syllabus so suggested could be suitably adopted by other universities.

The possibility of NCC 'B' certificate being treated as a subsidiary elective subject

The 'B' Certificate and its contents as at present cannot be accepted as a subsidiary elective subject for university studies. It should not be treated even as a subsidiary for a student offering military science as a major subject of study. The model syllabus to be suggested as indicated above, if it is of the university level, could perhaps be included as one of the subjects at the degree level in due course.

Preference to successful NCC' cadets for admission to postgraduate and professional studies

It may not be appropriate to give preference to students who have completed NCC training for purposes of admission to postgraduate and pro-

fessional studies. However, only those cadets who have obtained either 'B' or 'C' certificates should be given due weightage as is generally given to outstanding sportsmen in the matter of admission to such courses.

Enrolment of Students in NCC

The Committee accepted the recommendation that the enrolment of students in NCC must be voluntary and selective. Rules of attendance must be strictly enforced after they join the organisation.

20. RELEASE OF INSTALMENTS OF GRANTS IN RESPECT OF SCHEMES APPROVED BY THE COMMISSION

With a view to expediting the implementation of programmes accepted by the Commission under the Rs. 5 lakhs scheme, it has been decided that instalments of grants may be released on the basis of progress of expenditure incurred or on agreed sharing basis and also keeping in view that the colleges are kept in funds for implementation of the programmes.

21. GUIDELINES FOR THE APPOINTMENT OF VISITING PROFESSORS IN THE UNIVERSITIES

In a communication issued to all universities in July 1976, the Commission has communicated the revised guidelines in respect of Visiting Professors/Visiting Appointments as below :—

Visiting Professors

1. A Visiting Professor should be an eminent scholar in his subject.
2. The maximum tenure of a Visiting Professor be one year and minimum three months.
3. The Visiting Professor be paid honorarium upto Rs. 3,000 per month.
4. A suitable provision be made to enable the Visiting Professor to travel within the country for approved academic programme and also for reimbursement of medical expenses , if any.

Visiting Appointments

1. The duration of visit should not be less than two weeks and should not exceed four months in a year.
2. The travel expenses would be met by the host institutions.
3. In case of a person receiving his salary from the "parent institution", for the period of the visit, the host institution would provide hospitality and pay an honorarium not exceeding Rs. 1,000 per month.
4. In the case of a person not receiving his salary from his "parent institution" for a period of his visit, the "host institution" would pay an honorarium not exceeding Rs. 2,500 per month.

22. GENERAL CONDITIONS GOVERNING THE UGC UNIT UNDER THE SCHEME OF UNASSIGNED GRANT DURING THE FIFTH PLAN PERIOD

In a communication issued to all colleges in June 1976, the Commission has decided that for the UGC Unit, the UGC assistance may be Rs. 12,000 to a university having less than 50 affiliated colleges and Rs. 18,000 to a university having 50 or more affiliated colleges. The expenditure on engaging services of Engineers/Chartered Accountants in connection with their visits to colleges affiliated to the university for certification of grants paid by the Commission may be met out of the fund for the UGC Unit. The grant may not be utilised for the appointment of Class IV employees in the Unit.

23. PURCHASE OF VEHICLE FOR FIELD WORK

During the Fifth Five Year Plan period, the Commission has agreed to provide assistance to universities and Postgraduate Centres for purchase of vehicle for field work etc, the pattern of assistance being 50:50 basis. The expenditure on staff and maintenance and the running expenses of the vehicle would, however, be met by universities and Postgraduate Centres from their own resources.

UNPRICED PUBLICATIONS
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4. Recommendations of Zonal Workshops on Examination Reform (A follow-up study of the Plan of Action), 1975.
5. Examination Reform: A Plan of Action (including the Recommendations of Zonal Workshops), 1976.
6. Criteria, Guidelines and Pattern of Assistance to Autonomous Colleges, 1973.
7. UGC Bulletin, Vol. 1, Nos. 1 & 2, 1972.
8. Physics in India: Challenges and Opportunities, 1970.
9. Biological Sciences and National Development, 1973.
10. Mathematics in India: Meeting the Challenge, 1974.
11. Proceedings of Vice-Chancellors Conference, 1975.
12. Support for Research in Science, 1975.
13. Support for Research in Humanities and Social Sciences, 1975.
14. Guidelines for Faculty Improvement Programmes pertaining to Teachers in Affiliated Colleges, 1976.
15. Report of the Regional Seminar on Continuing Education, Hyderabad, 1976.
16. Report of the Seminar on Continuing Education, Poona, 1976.
17. Bulletin of Higher Education, Vol. 1, No. 1, April, 1975.
18. Bulletin of Higher Education, Vol. 2, Nos. 1 & 2, November 1976.
19. University Development in India (Basic Facts and Figures) 1971-72.
20. UGC Annual Report, 1974-75.

*Complete list of the publications can be obtained from the Publication Officer, University Grants Commission, 35, Ferozeshah Road, New Delhi, 110001.

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